

AFTER THE FLOOD: Integrating
ecology, history, and narrative in
recreation site planning on the
Snake River after dam removal

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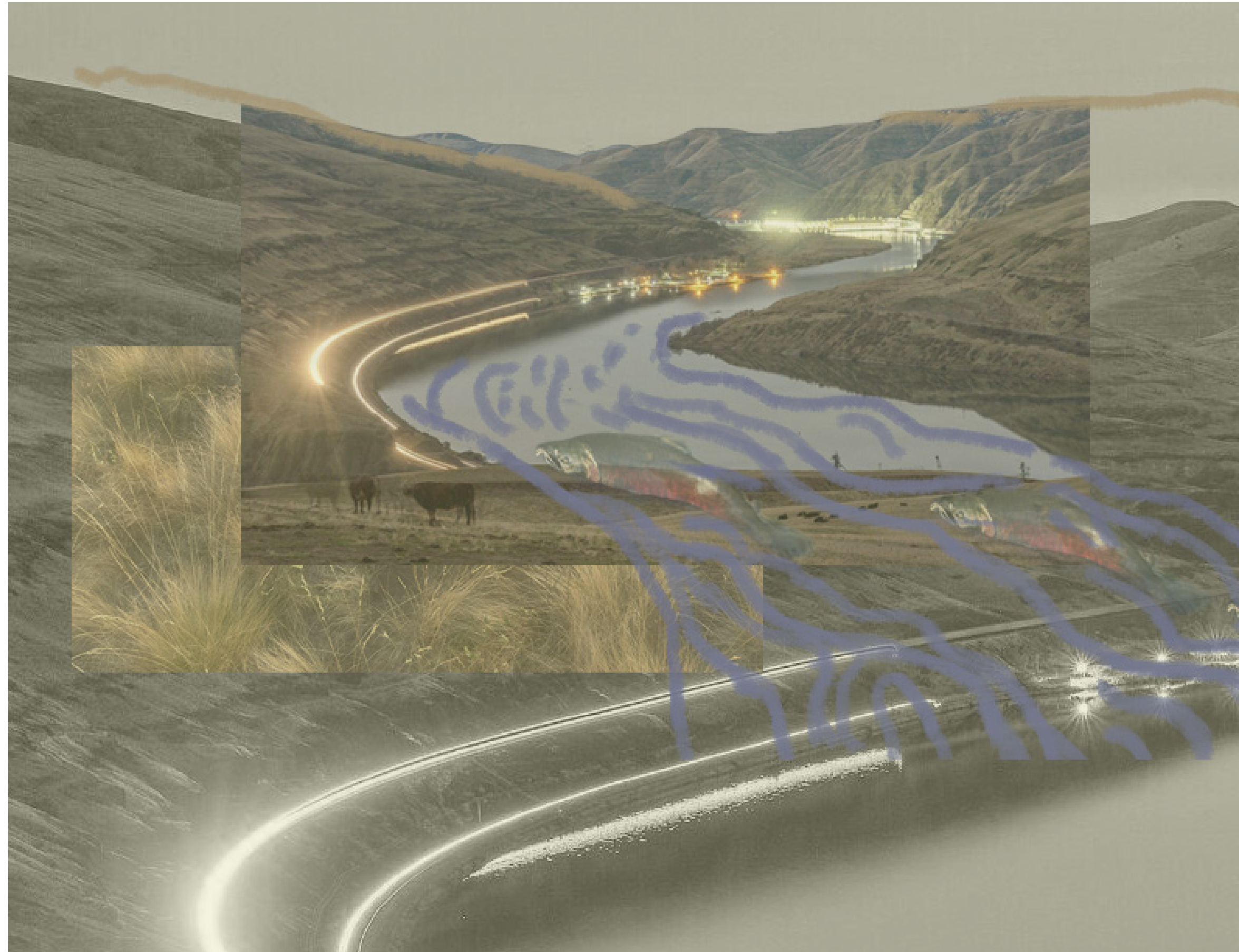
I. INTRODUCTION & BACKGROUND

INTRODUCTION

"River restoration can be envisioned both as a biophysical intervention in a social system and a social intervention in a biophysical setting."
(Magilligan 2018, 271)

Large dam removals are highly complex logistically, ecologically, and culturally, and include many stakeholders. Given how few projects there are as examples, the models for these types of projects are being formed now. In this project, I researched the ecological and cultural impacts of large dams and their removal, specifically looking at the Snake River and the potential removal of its lower four dams, and landscape architecture's place in the process of restoration and redesign after removal. How can landscape architects confront the legacy of dams and address layered natural and cultural history through site planning? Grounded in the perspective that ecology and culture are inextricably tied, this project addresses stakeholders and the layered cultural and natural history. It creates a narrative of place through site planning of a recreation area below a dam on the Snake River. The selected site is Wawawai County park in Washington State. It sits on a reservoir created by the Little Granite dam, one of the dams proposed for removal on the Snake River.

The site is a part of the region that I consider home. I am from Northeast Oregon and grew up in a family that would be considered part of a stakeholder group, as our family business was a rafting and fly-fishing guide service on the Snake River and the Grande Ronde River, one of the main tributaries of the Snake River. With that background, I bring a baseline of care and knowledge of the landscape, history, and cultures of the region and understanding of the complexity of stakeholder needs. Through boating, you learn to read water and currents to know how best to navigate a river. In this project, through a close reading of the river, I hope to impart a narrative of place based on my research and experience.



TRIBAL ACKNOWLEDGMENT



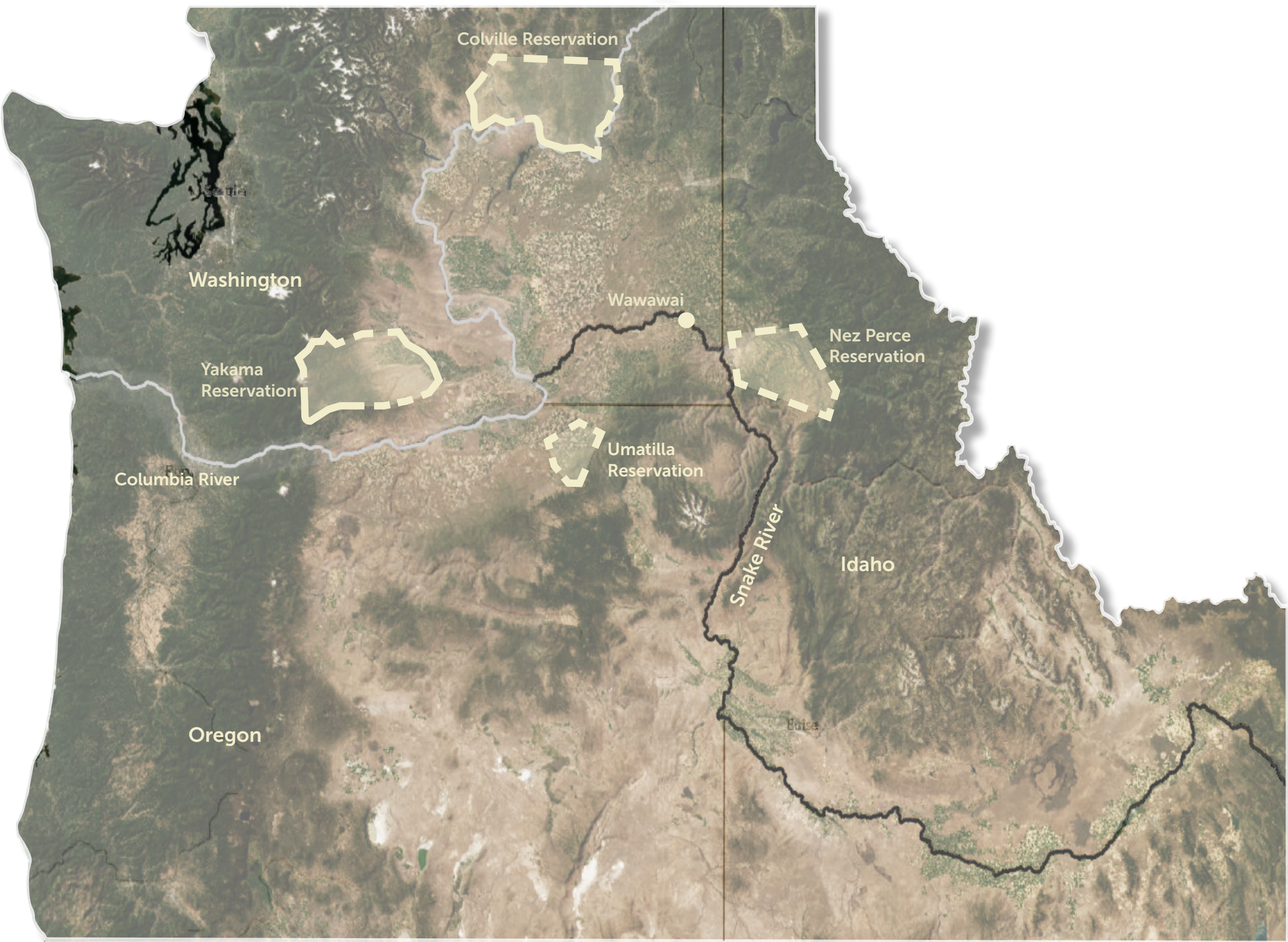
Tribal canoeists on the Memorial Bridge in Lewiston, Idaho, on the Clearwater River just before the confluence with the Snake River. The group joined the larger Free the Snake “flotilla” demonstration, Sept. 7-8, 2018. Mike Beiser/AP

Ideally, this project would be a collaboration with Nez Perce and Palouse people, the traditional inhabitants of my chosen site, however, this project is operating on academic time, not landscape time. Forming the relationships needed for that collaboration requires landscape time. I’m not a tribal member and this is not a collaborative project, so I do not speak for the tribes. I have done my best to

represent their history and culture with due respect and sensitivity. In order to do so, I have researched the history of the tribes and their current public statements and actions in regards to the dams and their removal. Additionally, I have consulted with non-tribal members who frequently work with tribes on their experience and perspectives on best practices for addressing topics that involve tribes.

PALOUSE AND NEZ PERCE DIASPORA

Traditionally, the Nez Perce and Palouse people lived closely with each other and were often intertwined. In the forced removal and treaty process, many Nez Perce people settled on the Nez Perce reservation, which is 77 miles from Wawawai in Idaho. The Palouse people, however, did not get their own reservation. Their diaspora is scattered across the Confederated Tribes and Bands of the Yakama Nation and the Colville Reservation in Washington, as well as the Umatilla Indian Reservation in Oregon, and the Nez Perce reservation in Idaho. While the Nez Perce and Palouse peoples are of equal importance, at times in this project, I will be sharing more information about the Nez Perce because there is more historical and current public information about them than the Palouse people.

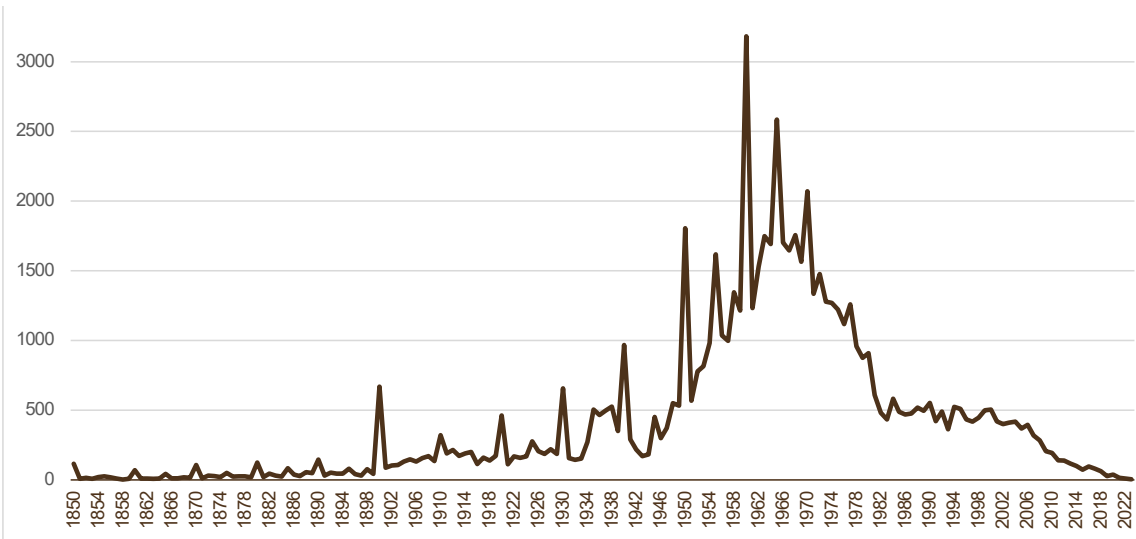


THE AGE OF DAMS

87,359 dams in the United States

85% of dams in the United States are past their useful lifespan

Dam Construction in the United States Over Time



Data from National Inventory of Dams

On September 17, 2011, the removal of the Glines Canyon Dam, on the Elwha River in the Olympic National Park in Washington began, which set the precedent for large dam removals, a trend that we will continue to see in the coming decades. In North America, more dams are now being removed than built. It is estimated that by 2050 4,000-36,000 dams in the US will be removed (Mechkin et al. 2020). In 2023 the largest dam removal in history began on the Klamath River, where four dams were removed in California and Oregon.

1930 through the 1960s was considered the golden age of dam construction in the United States (Lee. 2023), which means many of the countries dams are over 50 years old. It is estimated that 85 percent of America’s 87,359 dams will past their useful lives in 2020. As the licenses for dams come up for review, as happened on the Elwha and Klamath, it has become clear that in many cases keeping the dams is more expensive than breaching them, due to the need for repair, seismic retrofitting, and fish passage.

In the Pacific Northwest, the primary driver for advocates of dam removals is the health of salmon fisheries. Salmon populations are threatened and in some cases are approaching extinction. Removal of their barriers (dams) to spawning is likely their only hope for survival. In addition to the physical barriers of the dams, the slowing and warming of the water in the dams’ reservoirs also presents significant challenges for their survival.

MAJOR DAM REMOVALS

White Salmon River, WA

1912-2011 Condit Dam



White Salmon Restored. Sept. 2012. <https://whitesalmontimelapse.wordpress.com/>

Elwha River, WA

1913-2011 Elwha Dam



Deconstruction of the Elwha Dam proceeded in September (left) and November (right) 2011 Photos: Left, Ben Cody (CC BY-SA 3.0); right, Paul Cooper (CC BY-NC 2.0) <https://www.eopugetsound.org/magazine/elwha-series-introduction>

1925-2014 Glines Canyon Dam

Klamath River, CA/OR

1918-2024 Copco No. 1

1925-2023 Copco No. 2

1958-2024 J.C. Boyle Dam

1964-2024 Iron Gate Dam



Copco No. 1 Dam Test Blast. Swift Water Films. 2024 <https://www.activenorcal.com after-successful-test-blast-removal-of-klamath-rivers-copco-1-dam-moving-forward/>

LOWER FOUR SNAKE RIVER DAMS

A growing number of dams in the United States have been proposed for removal including The Rindge and Matilija Dams in Southern California, the Glen Canyon Dam in Arizona, O’Shaughnessy (Hetch Hetchy) Dam in California, and the Kinnickinnic River Dams in Wisconsin. Among those are the lower four dams on the Snake River: Ice Harbor Dam, Little Goose Dam, Lower Monumental Dam, and Lower Granite Dam. In December of 2023, the Biden administration announced their commitment to work with the Six Sovereigns (The Confederated Tribes of the Umatilla Indian Reservation, The Confederated Tribes of the Warm Springs, The Confederated Tribes and Bands of the Yakama Nation, The Nez Perce Tribe, The State of Oregon, and The State of Washington) to restore Columbia Basin salmon and to work towards the breaching of the four lower Snake River dams. Washington state committed \$7 million of its budget in 2023 to begin the process of planning the transition for dam removal (Tegethoff 2023).

The lower four Snake River dams were built between 1962 and 1975 for transportation, irrigation, and hydroelectricity (Hilbert-Wold, Gerlak 2022). In spite of existing rail infrastructure, they were built primarily for transportation. They only produce 4% of the power in the region and do not provide flood protection. Additionally, recent studies show that the reservoirs below the Lower Snake River dams emit 1.8 metric tons of carbon annually (Baumhardt 2024), contradicting the common belief that dams provide clean energy.

These dams make up four of the eight dams spanning 900 miles that the Salmon on the Snake River have to cross to reach their spawning grounds. Currently, 1% of their historic population remains. Dams are the largest factor in that decline (AFS. 2024). The impact of the dams on the health of the fisheries in the river, in addition to loss of traditional fishing spots, breaks treaty rights that guarantee the tribes’ usual and accustomed fishing access.

Ice Harbor Lock & Dam 1961



Ice Harbor Dam Steve Ringman / The Seattle Times. 2020. <https://www.seattletimes.com/seattle-news/environment/washington-state-aims-to-regulate-water-temperature-at-federal-dams-wading-into-controversy/>

Lower Monumental Lock & Dam 1969



Lower Monumental Dam. Bonneville Power Administration. <https://washingtonstatestandard.com/2023/11/30/feds-consider-removing-snake-river-dams-in-leaked-agreement-with-plaintiffs-in-lawsuit/>

Little Goose Lock & Dam 1970

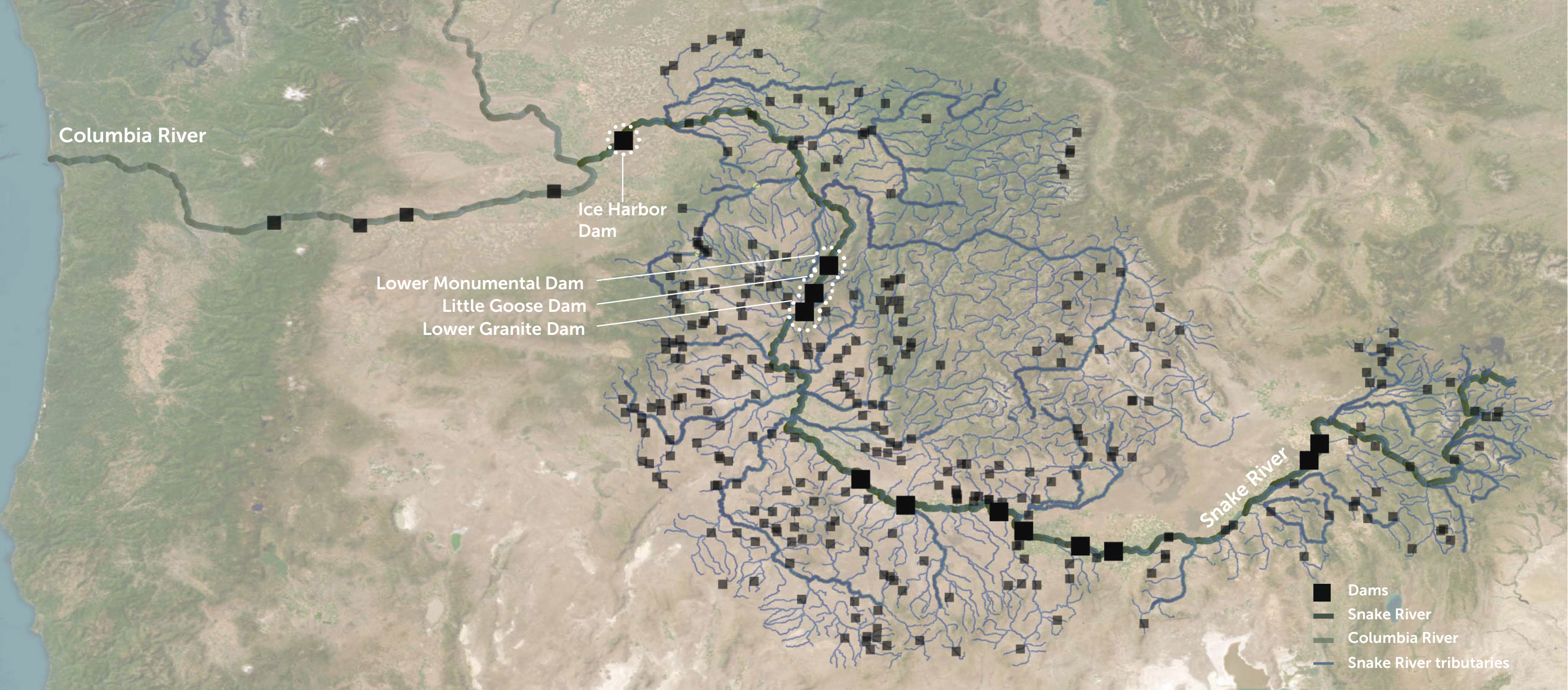


Little Goose Lock & Dam. Noe Gonzalez 2020. <https://www.nww.usace.army.mil/Media/Images/igphoto/2002814799/>

Lower Granite Lock & Dam 1975



Lower Granite Lock & Dam. Hannah Mitchell <https://www.nww.usace.army.mil/Media/News-Stories/Article/3505917/the-end-of-a-long-journey-a-history-of-lower-granite-lock-and-dam/>



SNAKE RIVER WATERSHED MAP Draining water from 6 states, the Snake River watershed covers over 100,000 sq. miles. The river crosses 1,080 miles from Wyoming to the Columbia River in Washington. .

Data: National Inventory of Dams, ESRI

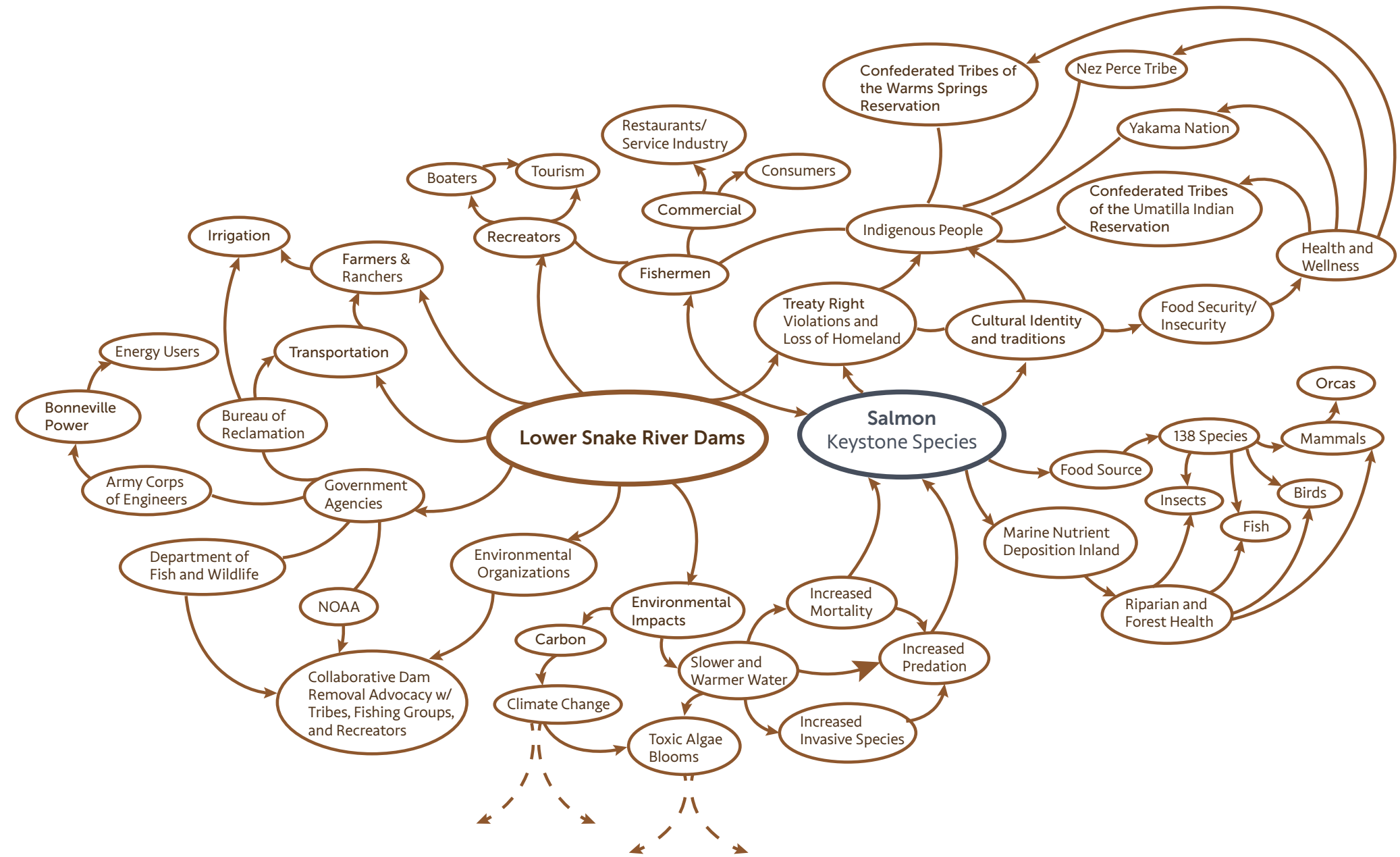
The construction of the lower four Snake River dams in the 1960s and 1970s flooded 90,000 acres (Bowler. 2024), including over 350 sites of cultural, archaeological, historical, recreational, ecological, and geological value (Orgill. 2020). In addition to farms, ranches and settlements, construction of the dams also inundated approximately 140 river miles of land that had been traditionally used or occupied by tribes of the region (Meyer Resources Inc.). Wawawai, the focal site for this project, and the rest of the inundated land along the river is a landscape of loss.

STAKEHOLDERS

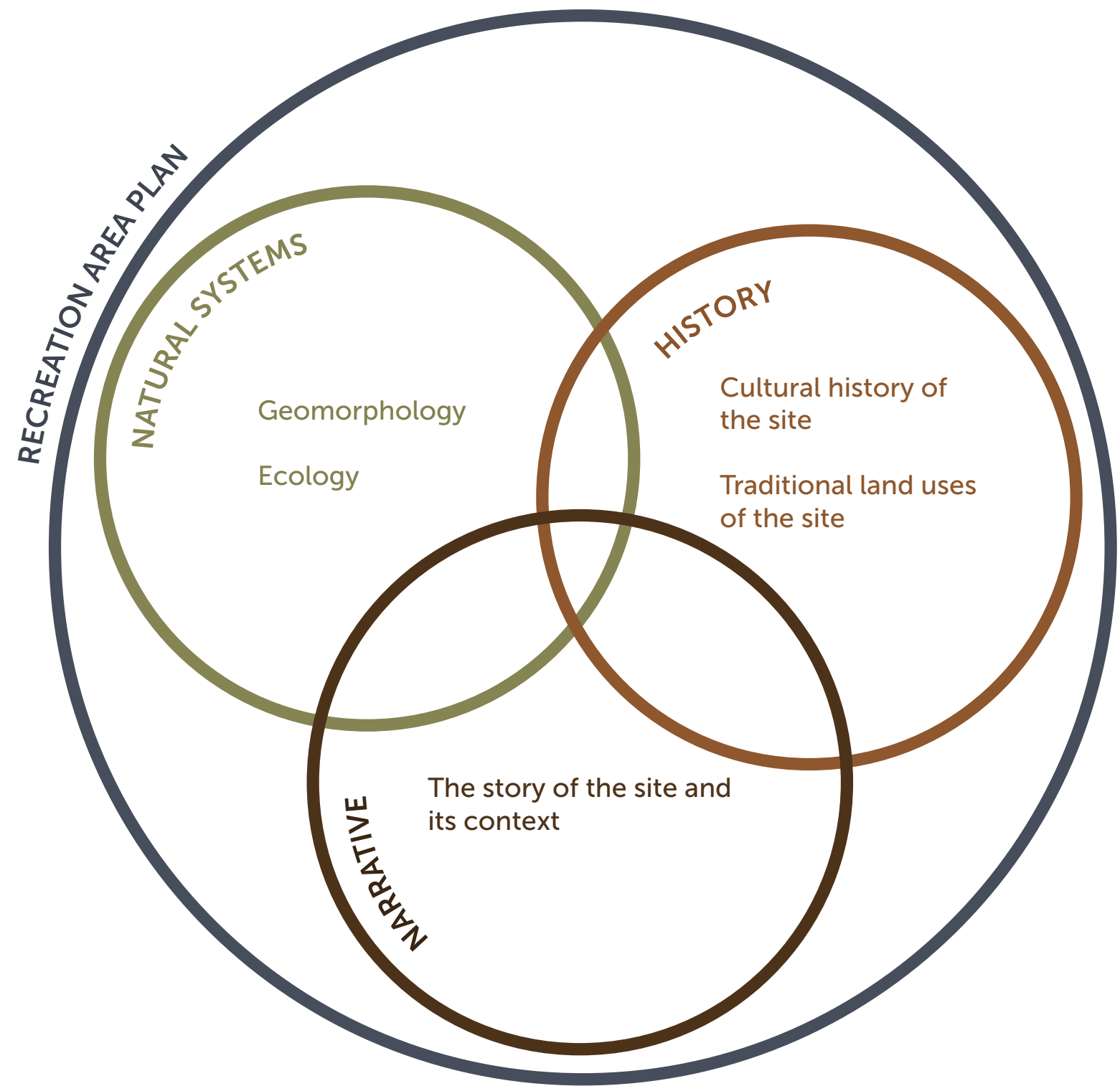
The Biden administration’s commitment to work with the Six Sovereigns to restore Columbia Basin salmon and to work towards the breaching of the four lower Snake River dams represents the partnership of diverse stakeholders invested in the removal of the dams on the lower Snake River. Tribes and other groups like commercial fishermen, who share concern for the health of salmon fisheries in the river, have become allies advocating for the removal of the dams (Grossman 2017). However, there are diverse stakeholders with varying needs and views involved in the potential breaching of dams on the river. In 2022, Washington Governor Jay Inslee’s office released the Lower Snake River Dams: Benefit Replacement Report, the report offers solutions to many stakeholder concerns, including issues of irrigation and energy production. Those potential solutions include replacing hydroelectricity with wind or solar and expanding federal farm payments to make up for the increased cost of transportation. The Nez Perce tribe has been transitioning to solar power on the Nez Perce Reservation to remove reliance on hydropower from the dams (Senkosky 2024).

Stakeholders involved in the Snake River dams include:

- The tribes of the region, whose traditional lifeways and well being are tied to the river
- Government agencies including the Federal Energy Regulatory Commission, which oversees hydroelectric projects. The U.S. Army Corps of Engineers Walla Walla district, which owns and operates the lower four Snake River dams, The Bureau of Reclamation, The Department of Fish and Wildlife, and the National Oceanic and Atmospheric Administration.
- Bonneville Power Administration
- Although the dams only provide 4% of the power in the region, energy users are among the stakeholders.
- The farmers of the region who rely on the river for irrigation of their crops.
- The transportation industry, which uses the barge system provided by the dam. Wheat is one of the primary exports from the region.
- Fishermen, which includes the tribes of Columbia Plateau region, commercial fishermen, and sport anglers. Fishing groups across commercial, tribal, and to a lesser extent sport anglers, have been among the loudest and most active advocates for the removal of the Snake River dams.
- The tourism industry. Tourists come to fish, boat, and recreate on the Snake River and support local businesses.
- Environmental advocacy agencies such as American Rivers and Save Our Wild Salmon



- Salmon and their associated species and ecosystems as a keystone species
- Salmon provide sustenance for a vast array of species, including the resident orcas off the coast of Oregon and Washington (Southern Resident Orcas), which are in danger of extinction due to their reliance on Chinook salmon.



CONCEPTS

One of the selling points for the construction of the dams was the improvement of recreation opportunities along the river. In the book *Of Yesterday and The River* June Crithfield said. “With the completion of Lower Granite Dam...past and present will be covered with water... One can only speculate on the changes which the future holds, but certainly there is every possibility of developing a fine recreation and tourist area. (Crithfield, 1964). Crithfield grew up Wawawai and wrote her book on the history of Wawawai in anticipation of the construction of the dam that flooded it.

Now, one of the selling points among advocates for the removal of the lower Snake River dams is the improvement of recreation opportunities along the river. Sport fishermen desire the improved health of fisheries that the dam removals would bring to improve fishing. Many non-motorized boaters desire the return of a free flowing river and the rapids and currents that were flooded by the dams.

Government agencies such as the U.S. Army Corps of Engineers have been assessing the stakeholder needs and determining replacement benefits for issues such as irrigation, transportation and power. Currently, in that process, along with the U.S. Army Corps of Engineers, The Washington State Recreation and Conservation Office have been studying the existing recreation opportunities and infrastructure along the Snake River from Lewiston, Idaho to the confluence at Richland, Washington. The intention of the study is to gain a better understanding of recreation infrastructure that would need to be replaced and what opportunities there would be to enhance recreation along the river, if the lower four Snake River dams were to be removed. 2,100 responded to the survey. “Rich Alldredge, who lives near Lower Granite Dam, said he has taken friends hiking on cattle trails near the river. He said he would enjoy it if lowering river levels opened up more trails parallel to the river, where he could hike and get closer to natural vegetation” (Flatt 2025). Alldredge and the others who responded to the survey provide key insights into the current recreator needs along the river.

Due to the scale of large dam removals, so far, the majority of the work on their removals and the restoration that follows has been done by engineers and large restoration agencies. The planning and redesign of recreation areas is a natural place for landscape architects to fit into the removal and restoration process. Landscape architects are uniquely qualified for this due to their

abilities to address stakeholder needs as well as the cultural and ecological issues involved in a site. The removal of large dams presents opportunities for rethinking and improving recreation along the river.

Within the vessel of a recreation area plan, this project focuses on natural systems, history and narrative. The removal of the dams provides an incredible opportunity to improve the ecological health along the river. The history of Wawawai is emblematic of the history of the American West, from its usage by Native Americans, its settlement and conversion to agricultural land, to the boom of dam building in the 1900s and the environmental and cultural conflict and activism that ensued. By examining history, this site presents the opportunity to create a model for honoring the cultural and ecological challenges, opportunities and narratives presented by the removal of the dams. After dam removal, what is the story that we want to tell and how can that story be conveyed through site planning?

In the book *Stories, Community, and Place: Narratives From Middle America*, Barbara Johnstone says “It is not just that ‘places’ serve to remind us of stories that are associated with them. But once they have acquired this story-based existence, the landscape itself acquires the power of ‘telling the story” (Johnstone, 1996, pg. 120), conveying the power and place of narrative in landscapes.

In *Landscape Narratives, Design Practices for Telling Stories*, Potteiger and Purinton identify several types of landscape narratives. The types that are relevant to this project are: Memory Landscapes, Processes, and Interpretive Landscapes. Memory Landscapes are places that are a locus of public and personal memory. Processes relates to actions that have incurred change such as succession, restoration, and demolition. Interpretive Landscapes include elements and programs that share the story and information about the place. (Potteiger, Purinton 1998, 11)

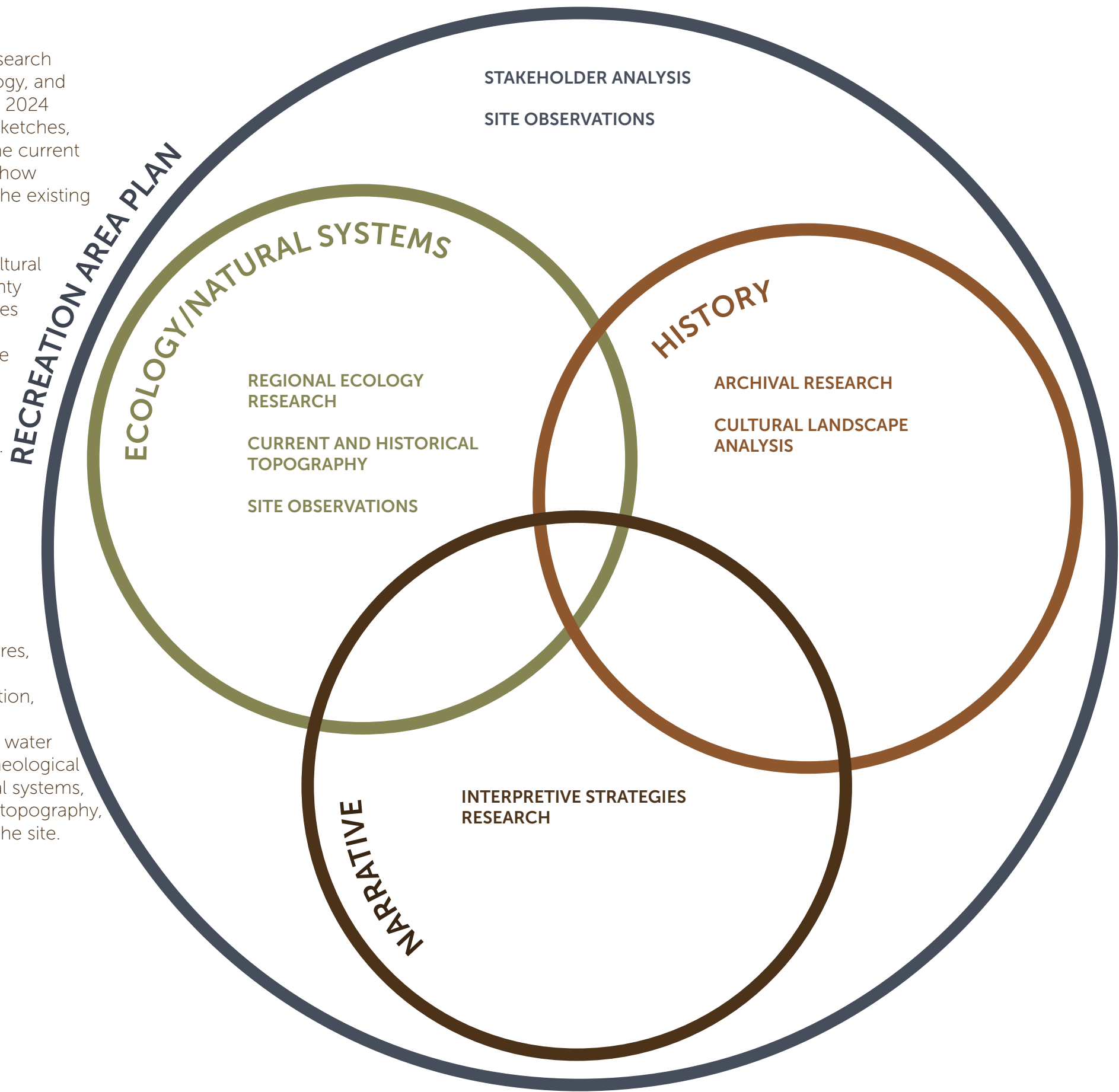
Through colonization and the construction of the dam, the physical remains of the story of human connection to Wawawai has been washed away. Through site planning, this project makes visible layers of history, and aims to renew connection to place.

II. RESEARCH & ANALYSIS

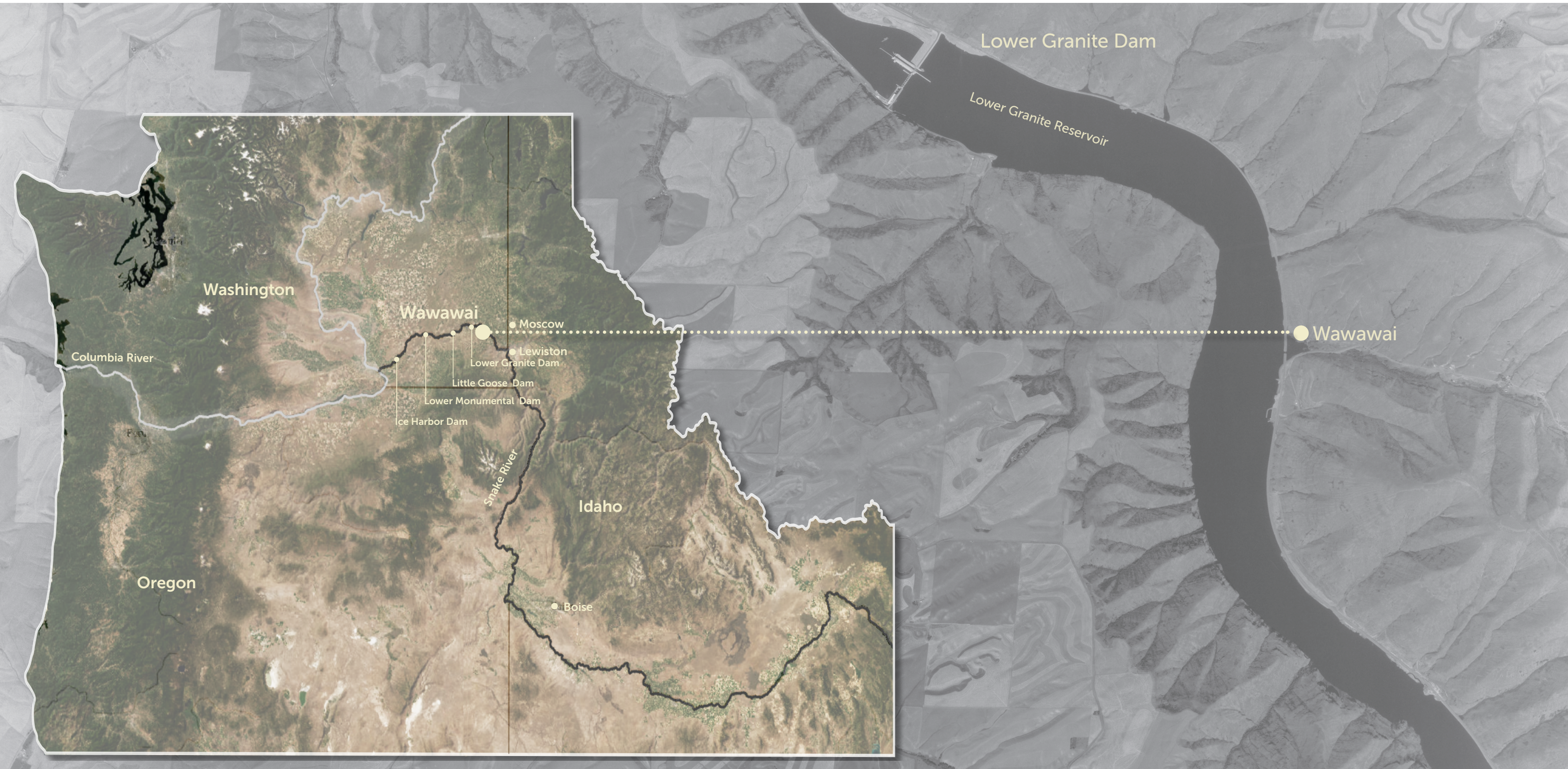
CONCEPTS & METHODS

Site analysis was conducted through research into the regional ecology, geomorphology, and site history. I visited the site in August of 2024 and took extensive photos, notes, and sketches, which informed my understanding of the current conditions of the site. I was able to see how visitors to the site are using it and how the existing infrastructure is functioning.

Additionally, I assessed the site using cultural landscapes frameworks. Wawawai County Park is unusual from a cultural landscapes perspective. It would not typically be considered a cultural landscape because all of the relevant historical landscape characteristics have been lost or altered due to the flooding from the construction of the Lower Granite Dam. However, by assessing what remains of these characteristics and the historical documentation of them, we can gain a greater understanding of the site and its historical context. I examined the landscape characteristics, which is one of the cultural landscapes assessment methods. Landscape characteristics elements are: natural systems and features, spatial organization, land use, cultural traditions, cluster arrangements, circulation, topography, vegetation, buildings and structures views and vistas, constructed water features, small-scale features, and archaeological sites. In this project, I address the natural systems, land use, cultural traditions, circulation, topography, vegetation, and archaeological sites of the site.



GEOGRAPHIC CONTEXT



SITE INTRODUCTION AND GEOGRAPHIC CONTEXT

Wawawai County Park in Whitman County, Washington is a 49-acre park three miles downstream of the Lower Granite Dam, the uppermost dam proposed for removal on the Snake River. This site provides opportunities for ecological restoration, cultural landscape investigation, and amenities for stakeholders including recreators, and tribal members. It has a trail with a bay and wetland, a picnic area, and a campground. Currently, access to the river is cut off by railroad tracks, but access to the river could be restored post-dam removal.

It is situated in the Palouse geographic region. The Palouse lies in the greater Columbia Plateau and includes parts of Southeast Washington and North Central Idaho. The Palouse is a primarily rural and agricultural area, known for wheat, legumes, rolling hills and prairies. University towns Moscow, Idaho, and Pullman, Washington straddle the state line to the northeast while Lewiston, Idaho, and Clarkston, Washington, straddle the state line to the southeast. Lewiston/Clarkston lie along the Snake River and are a popular destination for recreators who fish and boat on the reservoir created by the Lower Granite Dam upstream.

This area lies in the rain shadow of the Cascade mountains to the west, creating a climate that is the hottest in the state and prone to drought. The typical annual precipitation is 25 inches. The primary habitat and plant community of the area is shrubsteppe. Drought tolerant shrubs like rabbitbrush and sage, grasses, and forbs are typical of the shrubsteppe. Volcanic ash created deep, fertile soils. Deep canyons were carved through basalt by glaciers in the ice age. (Ecoregions, WDFW, February 15, 2025)

Water from six states and diverse bioregions like deserts and alpine areas drains to the Snake River and carries salmon and other anadromous fish to the ocean. In returning to the mountains and valleys of the inland west, they deposit vital marine nutrients along the way and feed hundreds of species.



Wawawai County Park looking Southeast, 2024, Author

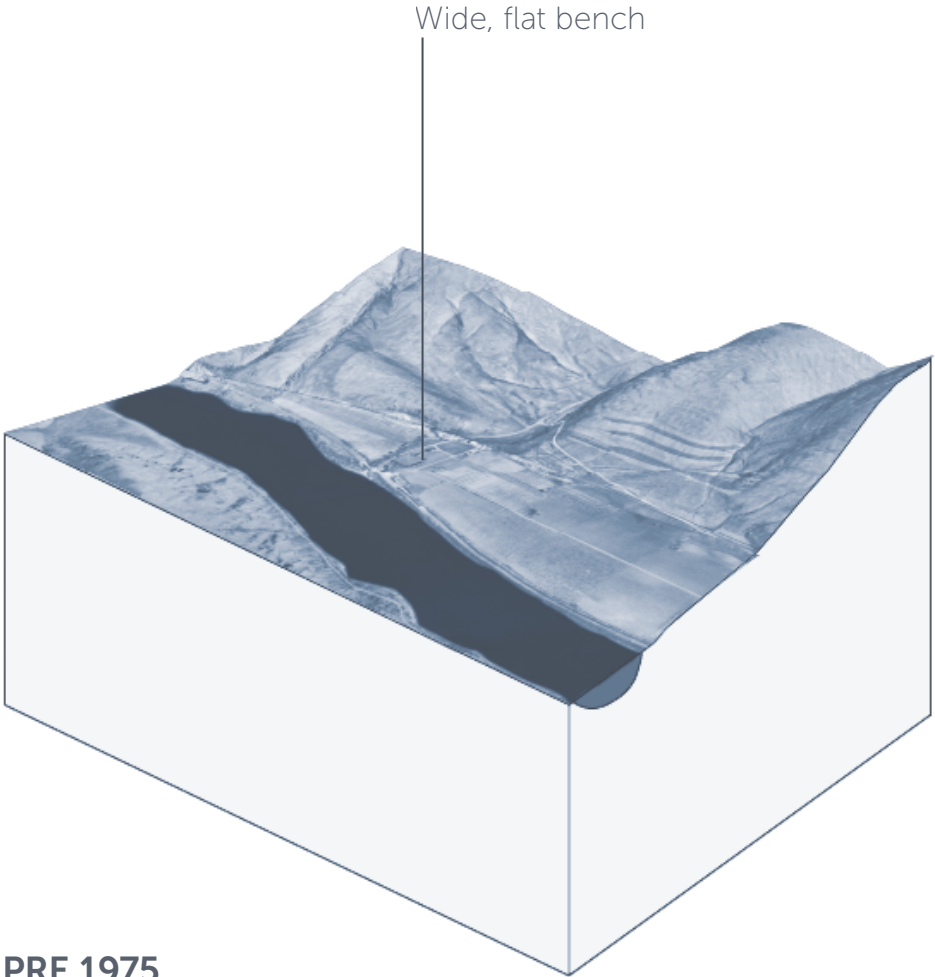
GEOMORPHOLOGY

River channel before and after the construction of the Lower Granite Dam



GEOMORPHOLOGY

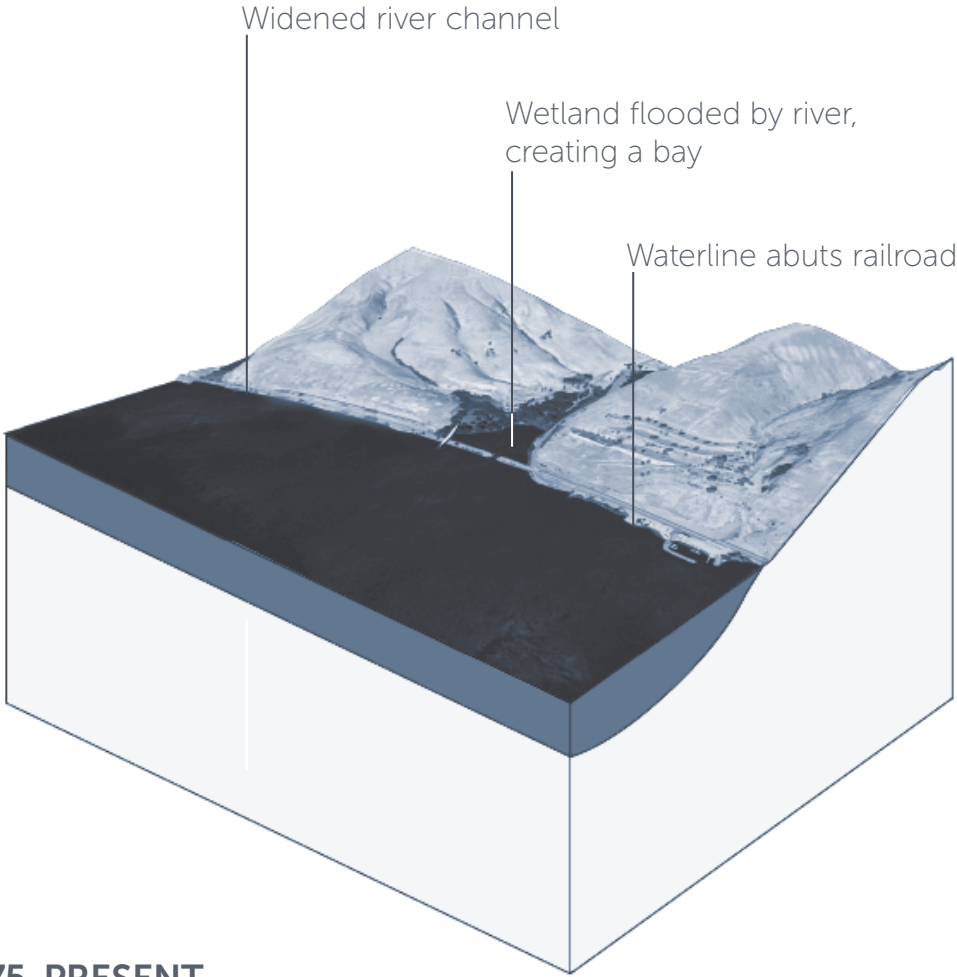
Landform changes



PRE 1975
Historical Wawawai landform

Replicated using historical topography lines and aerial imagery from 1961

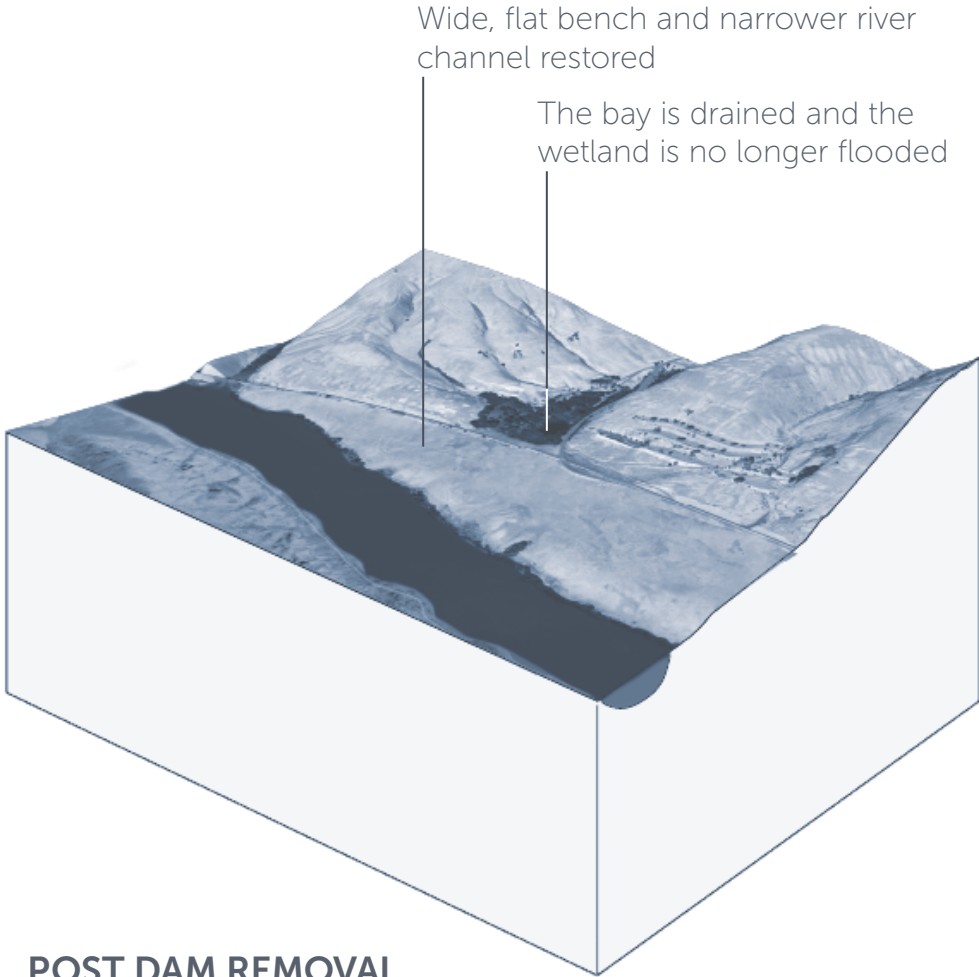
One of the largest challenges in site design after dam removal is anticipating the new topography. Dams cause downstream river channels to be incised. Once the dams are removed the build-up of sediment above the dam is released downstream. The sediment that would be released would likely be composed of silt and sand. Although there was a great deal of concern about the release of sediment downstream and potential negative effects, it has been found that streams and rivers can restore healthy structures within a matter of months or years, rather than decades (Majors, et al. 2017). Although there’s a growing understanding of the after-effects of dams after they’ve been removed, due to the complexity of the process, there currently is not an accurate way to model what the landform changes will be once the dams are breached.



1975-PRESENT
Current Wawawai landform

However, to gain a better understanding of the landform changes I modeled the existing topography using National Oceanic and Atmospheric Administration data. I reconstructed the historical landform using historical topography lines from a map from 1964 and an aerial photograph from 1961. Using the historical landform as precedent, I modeled a post speculative dam removal landform that could be formed using grading.

Something to note in these models is the bay seen in the current landform, which was created from the flooding from the dam. Once the flooding recedes after dam removal, that bay will no longer be there. Based on my research, I determined that a wetland would remain in that spot. There is a natural seep there and its the natural water collection spot from the surrounding hills.



POST DAM REMOVAL
Proposed Wawawai landform

Using the historical topographic information as reference

However, due to the dry climate, it may be a seasonal wetland.

SITE ECOSYSTEMS

Each of the three primary ecosystem types found on this site provide critical habitat, but have been heavily impacted by land use changes over time, including dams, agriculture and development.

This site provides habitat in an area dominated by agricultural use.

50-90% of **Riparian** habitat has been lost or degraded in Washington

80% of **Shrubsteppe** habitat has been lost or degraded in Washington

31% of **Wetland** habitat has been lost in Washington



Chinook Salmon *Oncorhynchus tshawytscha*
Listed as a Priority Species in Washington state
Culturally important food source



Pacific Lamprey *Entosphenus tridentatus*
Listed as a Priority Species in Washington state
Culturally important food source



Northwest Raspberry *Rubus nigerrimus*
Listed as Threatened in Washington state
Endemic to the Snake River in Whitman County

Plant species examples:

- White Alder *Alnus rhombifolia*
- Coyote Willow *Salix exigua*
- Hackberry *Celtis reticulata*
- Black Hawthorn *Crataegus douglasii*
- Douglas's Sedge *Carex douglasii*
- Liddon's Sedge *Carex petasata*

RIPARIAN



Prairie Falcon *Falco mexicanus*
Listed as a Priority Species in Washington State



Sagebrush Lizard *Sceloporous graciosus*
Listed as Priority Species in Washington state

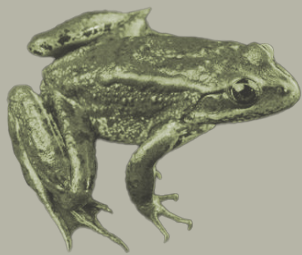


Woodyroot Milkvetch *Astragalus riparius*
Listed as Threatened in Washington State. Has been identified on the site

Plant species examples:

- Stiff Sagebrush *Artemisa rigida*
- Rubber Rabbitbrush *Ericameria nauseosa* var. *speciosa*
- Arrowleaf Balsamroot *Balsamorhiza sagittata*
- Parsnip-flowered Buckwheat *Eriogonum heracleoides*
- Blue wild-rye *Elymus glaucus*
- Cusick's bluegrass *Poa cusickii*

SHRUBSTEPPE



Columbia Spotted Frog *Rana luteiventris*
Listed as Priority Species in Washington state



Western Toad *Anaxyrus boreas*
Listed as Priority Species in Washington state



Palouse Aster *Symphyotrichum jessicae*
Listed as Endangered in Washington state
Endemic to Washington and Idaho

Plant species examples:

- White Alder *Alnus rhombifolia*
- Coyote Willow *Salix exigua*
- Stinging Nettle *Urtica gracilis*
- Hemp Dogbane *Apocynum cannabinum*
- Nevada rush *Juncus nevadensis*
- Slender Beak Sedge *Carex athrostachya*

WETLAND

SITE CHARACTER ANALYSIS

August shrubsteppe color and texture study



WAWAWAI HISTORY

“I was told there is a single human track on a loose rock above Wawawai...Of course we naturally regard [this] as of Nez Perce origin”

(Native linguist and interpreter Camille Williams quoted in (McWhorter, 1952)



Nez Perce Canoe 1910. Library of Congress



Harvest Crew at Wawawai 1898 Washington State University Digital Collection



Steamboat at Wawawai 1898 Washington State University Digital Collection



Washington Railroad Workers Washington State University Libraries



Railway in Wawawai 1938 June Crithfield Collection Washington State University



An Indian Camp at Wawawai June Crithfield Collection Washington State University



Lower Granite Dam 1979 University of Idaho Digital Collection



Wawawai County Park 2004 David Dugan

Since time immemorial Site of Palouse (Palus) and Nez Perce (Nimiipuu) villages

Home of the Wawawai band of the Palouse people as well as Nez Perce people. Wawawai would likely have been used as a permanent village that they would have traveled away from seasonally to hunt and gather in higher elevation areas.

1875
Wawawai was homesteaded. The first orchard, which was apple, was planted.

Orchards expanded quickly and a settlement formed soon after. By the late 1800s a school was established.

1885
The post office and Wawawai Ferry were established. The ferry was used to transport fruit and grains that were grown in the area. Wawawai was a crossroads for people traveling throughout the region.

1880s/90s
Orchards were worked in part by Chinese laborers who had come to the area to work on the railroads. In the late 1880 the Chinese were the largest portion of the foreign born population in SE WA, but were largely run out of the area by the 1900s due to anti-Asian sentiments.

1907
Railroad reached Wawawai.

1920s
Up until the 1920s tribal members came annually and set up camps to work in the orchards. “Half a hundred Indians or more set up their teepees along the creek... They came to harvest the strawberries in early spring and stayed to fish and pick the wild blackberries growing along the creeks, waiting until the prunes were ready to harvest later in the season...” (Crithfield, 1964)

1940s
The orchard business dwindled after World War II. Most of the fruit was no longer picked and sent to market. Instead, the orchards were opened to the public when the fruit was ripe. Families came and picnicked, and picked and bought fruit to can for the winter.

12/31/1967
The post office closed. In the late 1960s the community dispersed and the orchards and buildings were removed in anticipation of inundation from the construction of the Lower Granite Dam.

1968 & 1971
In anticipation of the inundation from the construction of the Lower Granite Dam, archaeologists working with the National Park Service and Washington State University excavated the site and removed Nimiipuu and Palus cultural artifacts.

1975
Construction of Lower Granite Dam was completed and Wawawai was inundated with 80 feet of water.

1979
Whitman County Parks and Recreation opened Wawawai County Park.

WAWAWAI HISTORY

Since time immemorial Wawawai has been the home to Nez Perce and the Wawawai band of the Palouse people. Artifacts have been found in Idaho showing human settlement dates back at least 16,000 years in the area. The Missoula floods likely wiped away evidence of humans that may have been in the area before that. Some say that the Wawawai means Council Grounds, while other sources say that the site is named Mosquito Creek for the mosquitoes that were common on the site. A well-known village site, Wawawai would likely have been used as a permanent village that they would have traveled away from seasonally to hunt and gather in higher elevation areas. Winters were typically spent along the Snake River (Wawawai) where the climate was milder and they would travel to higher elevation areas, like the Blue Mountains, in the warmer seasons to hunt and gather roots and berries. They likely would have fished for salmon, lamprey, and sturgeon, among other fish, and dug roots at the site. This information is based on general research on the tribes. I was unable to find specific or spatial information about their use of the site. However, there are archaeological records of the site. Artifacts like mortars and pestles, projectile points, and burial sites were found at the site. (Yent 1976) In 1968 Wawawai was excavated by a team with the National Park Service and Washington State University to collect and analyze the archeological remains of the site before it was flooded by the Lower Granite Dam, removing Nez Perce and Palouse artifacts and belongings.

In 1875 Wawawai was settled by Isiah Matheny, who planted the first apple orchard. Early settlers focused on grazing livestock, but the mild winters and early springs that had attracted the original inhabitants of the site, Nez Perce and Palouse, proved to be fruitful for orchards. The town of Wawawai was platted in 1878. In 1884 residents petitioned the Whitman County Board of Commissioners to vacate the town, determining that the fertile land was better used agriculturally. (Doughtery 2006) In the late 1880s Wawawai established a school, post office, and Wawawai ferry, which transported people, and wheat and fruit that were grown on the site.

In the 1880s, Chinese laborers, who had come to the area to work on the railroads, were among the people that worked the orchards. In the late 1800s the Chinese were the largest portion of the foreign-born population in SE Washington, but were largely run out of the area by the 1900s due to anti-Asian sentiments. (Scheuerman 1992, 6) "Chinese were employed to tend the gardens; the foreman of this crew was Old Fong. These people were housed in the old Jesee Burgess house which became

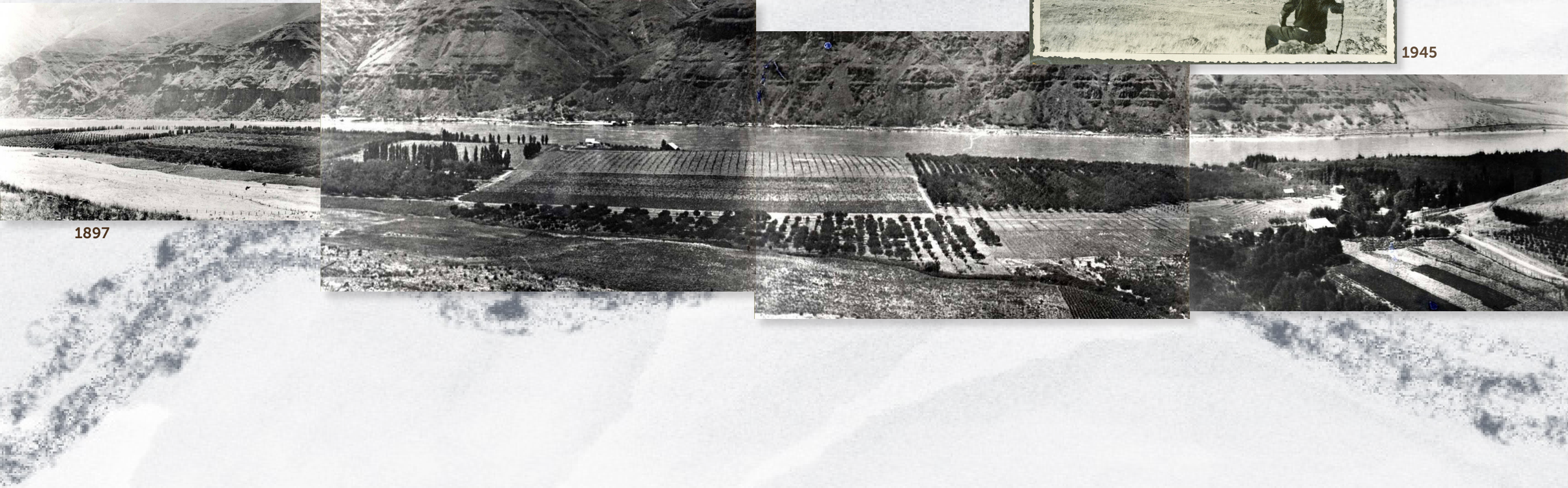
known as the China House." (Crithfield 1964, 35) Although the time that Chinese people worked on the site was relatively brief, the history bears examination and acknowledgment. due to the massive contribution of the Chinese to the formation of the West and the erasure of their history.

The orchard business dwindled after World War II. Most of the fruit was no longer picked and sent to market. Instead, the orchards were opened to the public when the fruit was ripe. Families came and picnicked and picked and bought fruit to can for the winter.

On December 31, 1967 the post office closed. In the late 1960s, along with the post office, the orchards and other buildings were removed and the community dispersed in anticipation of inundation from the construction of the Lower Granite Dam. The construction of the dam was completed in 1975, burying Wawawai under 80 feet of water. In 1979 Whitman County Parks and Recreation opened Wawawai County Park to improve recreation opportunities after the construction of the dam.

ORCHARDS OF WAWAWAI

Apples, peaches, cherries, prunes, apricots, and pears



Washington State’s current status as the country’s largest apple producer has its roots in the boom of orchard establishment in the state from the late 1880s to 1930. Aided by the federal government and the construction of railroads, orchards played a major role in the settlement of Washington (Zaragoza, 2007).

The panorama photo was taken looking east from approximately where the waterline is now at Wawawai County park.

Photos:
Wawawai Orchards Washington Clifford M. Ott Collection, University of Idaho Library Special Collections and Archives, <http://www.lib.uidaho.edu/special-collections/>

Sylvan Dreifus, Peach Orchard at Wawawai, circa 1945 Washington Rural Heritage <https://cdm17176.contentdm.oclc.org/digital/collection/whitman/id/5562/rec/4>

HISTORICAL WAWAWAI LAYOUT



This aerial photograph is from 1961, which is after the heyday of the settlement. Many of the orchards had already been removed by the time this photo was taken. Roads and orchard plots are

highlighted because they influenced the spatial arrangement of the proposed site plan.

Photos:
Marion B. Meyers Harvest Crew, Wawawai, WA 1897 Washington State University Digital Collection
Post Office 1917. June Crithfield Collection, Washington State University
Wawawai Washington [02], Ott Historical Photograph Collection, University of Idaho Library Digital Collections, <https://www.lib.uidaho.edu/digital/ott/items/ott1740.html>

CURRENT WAWAWAI LAYOUT



WALKING TRAIL



PICNIC AREA



BAY & WETLAND



CAMPGROUND



CURRENT WAWAWAI LAYOUT & THE INUNDATED LAND



Although the Wawawai settlement and the landform that supported it no longer exist as they did, this plan shows the current conditions with the land that was flooded to provide an understanding of the spatial context and the scale of the flooding.

SITE USES & STAKEHOLDER NEEDS

Although the populations and landform have changed over time, the mild winters, early springs, and river access have attracted people to Wawawai across time.



James Wilson Fishing out of a Dugout Canoe. 1916-1923. Nez Perce National Historical Park



Two Men Holding Buckets of Peaches. 1928. University of Idaho Digital Collection

Stakeholder needs for the proposed site plan were determined based on the historical land uses and current recreation opportunities. Those stakeholder needs include maintaining and enhancing existing recreation opportunities, many of which are tied to historical land uses of the site, and re-establishing access to culturally significant plants.

SITE USES OVER TIME

Nez Perce and Palouse pre-settlement

Settlement era 1875-1967

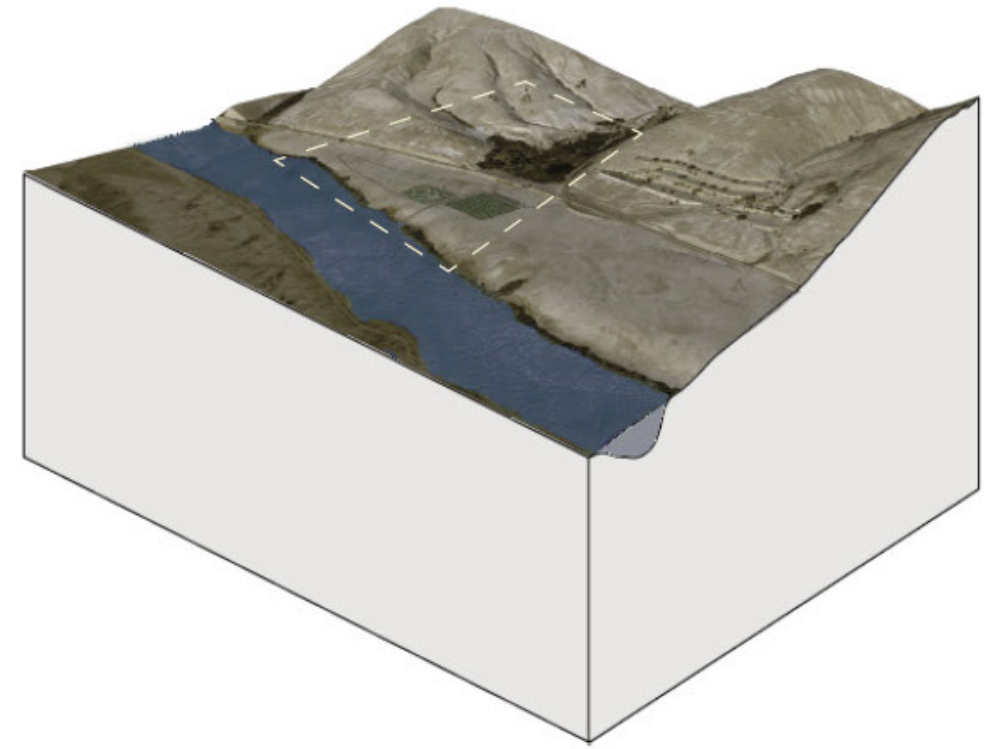
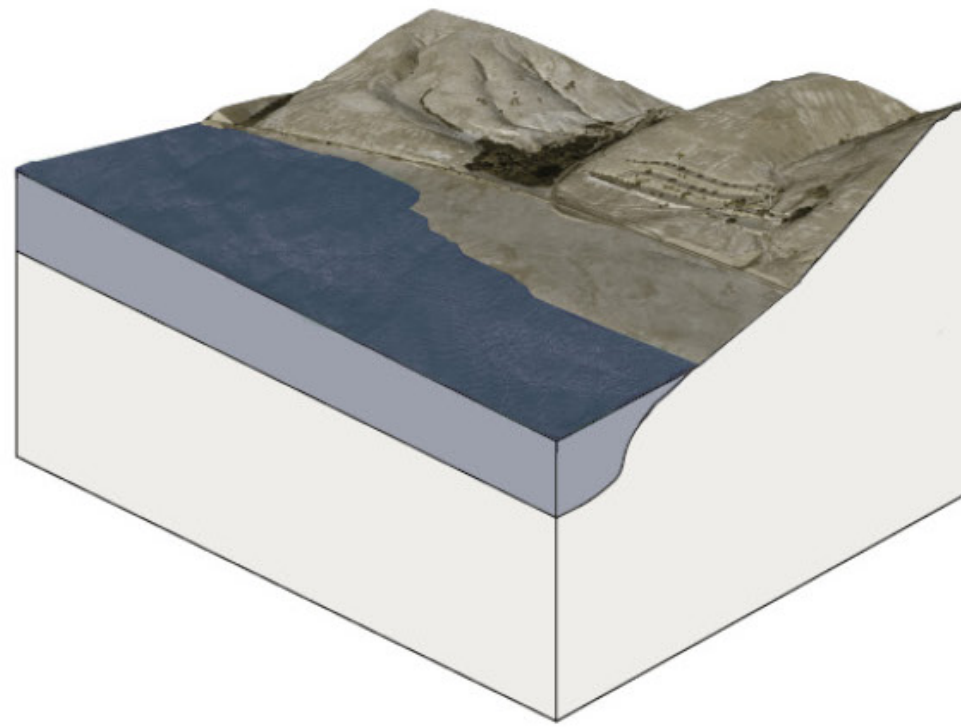
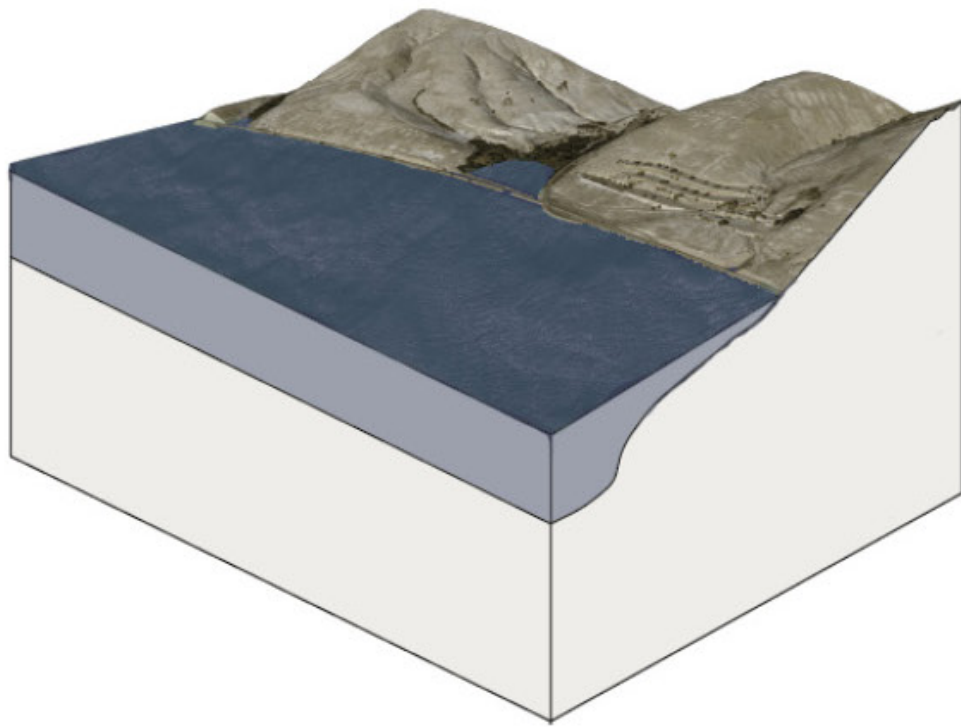
Wawawai County Park 1979-Present

CURRENT STAKEHOLDER NEEDS: Nez Perce and Palouse people, and recreators



III. PLANNING

PLANNING

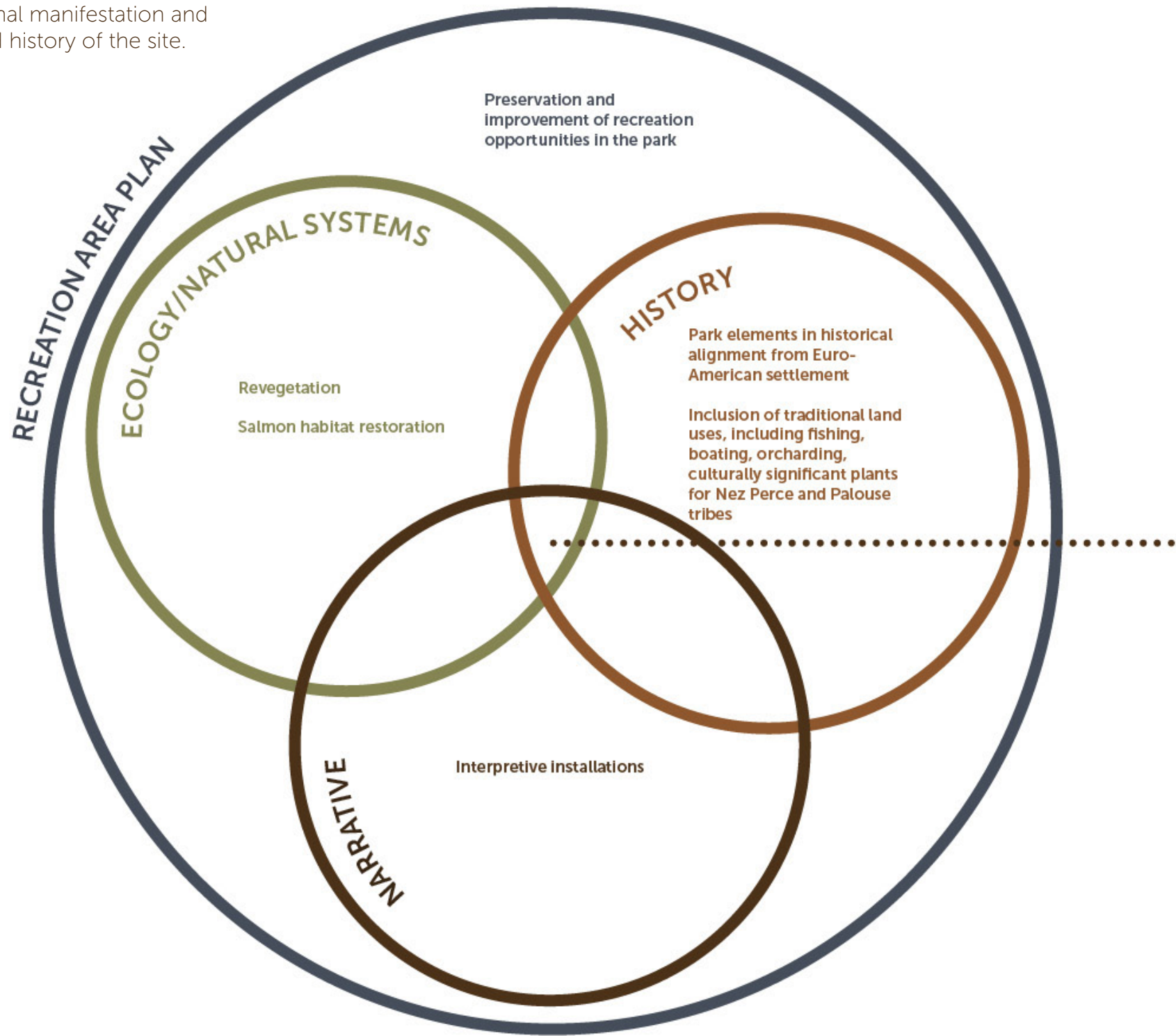


Given the analysis, what do we want to foster on the land that is revealed as the water recedes after dam removal?

PLAN CONCEPTS & ELEMENTS

Plan elements were selected based on analysis and the plan concepts.

Interpretive elements are the educational manifestation and visualization of the natural systems and history of the site.



INTERPRETIVE/NARRATIVE THEMES:

Cultural/historical:

- History and continued presence of Nez Perce and Palouse people on the site and in the area
- Euro-American Wawawai settlement and its orchards
- History of the Chinese orchard laborers
- Lower Granite Dam and its legacy

Natural Systems:

- Salmon
- Landform changes
- Shrubsteppe ecology
- Wetland ecology
- Riparian ecology

PROPOSED PLAN

- Interpretive wayside panel topics
- 1 Salmon and riparian ecology
 - 2 History and continued presence of Nez Perce and Palouse people on the site and in the area
 - 3 Euro-American Wawawai settlement and its orchards
 - 4 History and acknowledgment of Chinese orchard laborers
 - 5 Wetland ecology
 - 6 Shrubsteppe ecology
 - 7 Landform changes



Revegetated shrubsteppe, including re-establishment of culturally significant plants

Extended walking trail

Picnic and gathering spots planted with native grasses, forbs, shrubs and trees. Shade structures designed to be stylistically compatible with existing park shade structures

Interpretive element: flood markers

Benches cut from recycled concrete from the Lower Granite dam

Road in historical alignment

Parking

Orchard in alignment with one of the historical orchard plots. Blocks of apple, apricot, peach, and cherry trees.

Revegetated riparian area and re-establishment of salmon habitat

Fishing platform for ADA accessible fishing

Boat launch in historical ferry landing location

Space reserved for collaboration with Nez Perce and Palouse tribal members for interpretive/commemorative element, prioritizing the opportunity for self-representation

Picnic area

Parking

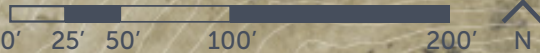
Campground

Wawawai road

Drained bay with enhanced wetlands, possibly seasonal

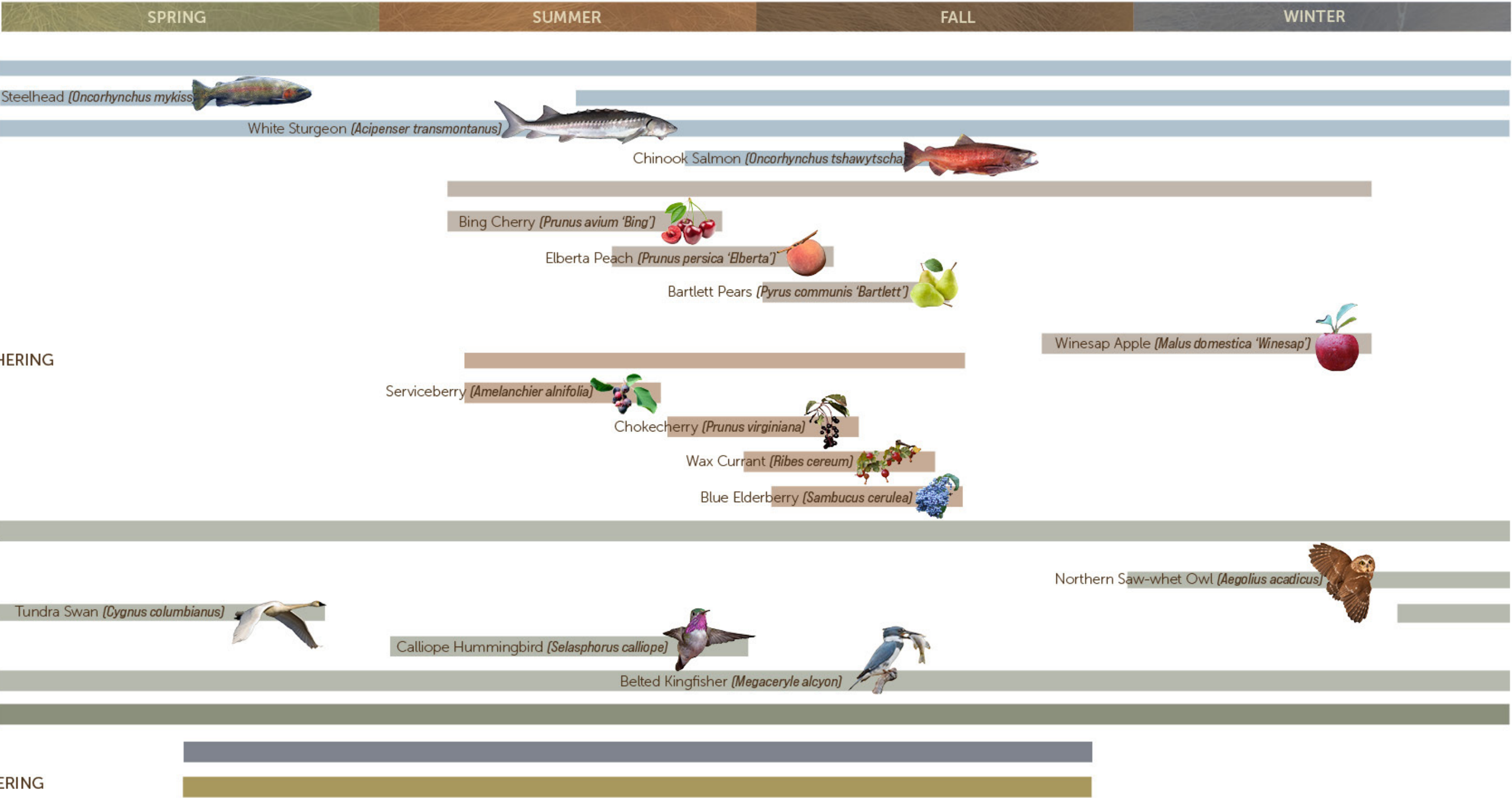
Redesigned birdwatching platform

- Existing Walking Trail
- Proposed Walking Trail
- Proposed Road



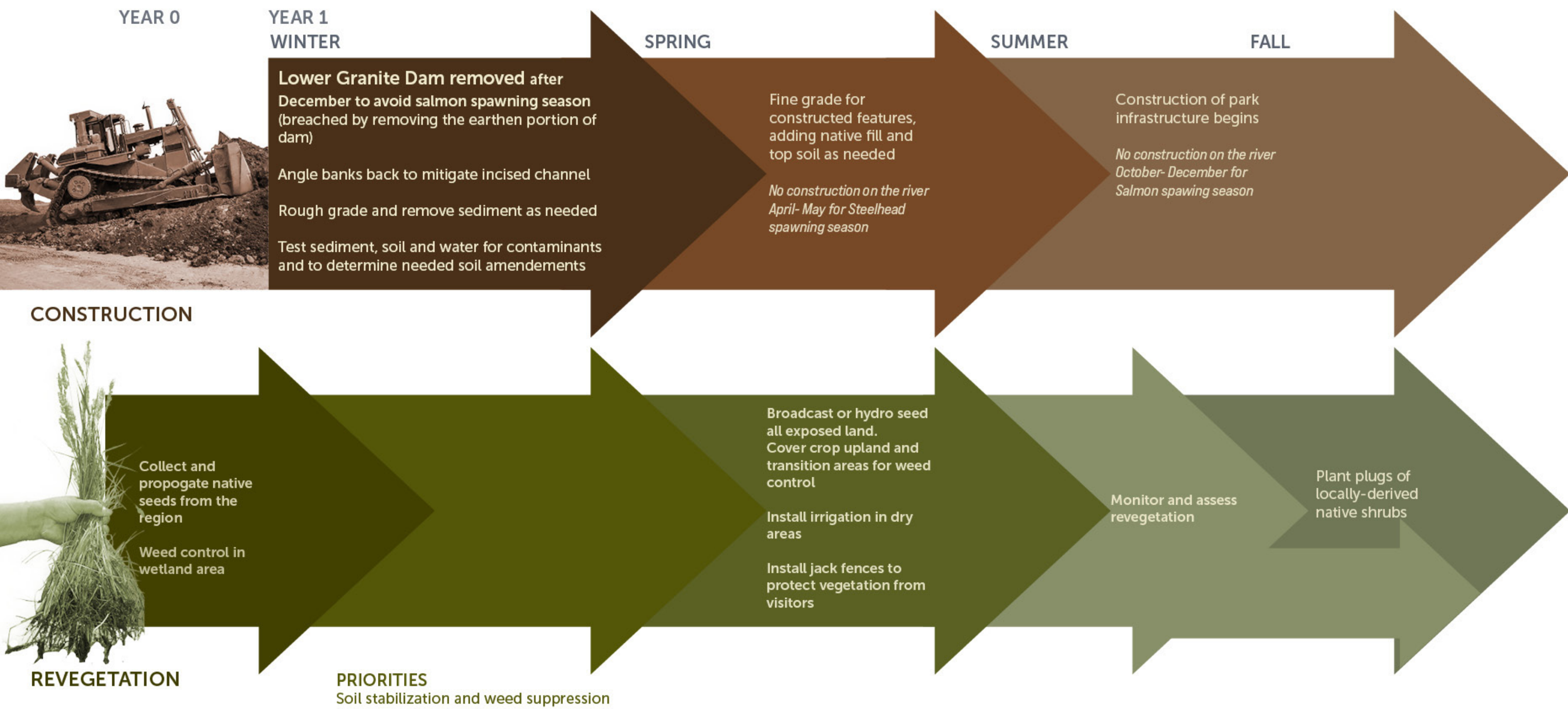
Plan elements	Ecology	History	Narrative	Recreation/contemporary stakeholder use
Revegetation	X Re-establishes native vegetation	X Inclusion of culturally significant plants for the Nez Perce and Palouse people	X Contributes to the historic character of the site and the story of restoration after dam removal	X Reconnection to culturally significant plants for the Nez Perce and Palouse
Restoration of salmon habitat	X Improves health of salmon fishery	X Fishing area for the Nez Perce, Palouse, and Euro-American settlers	X Contributes to the narrative of the cultural and ecological importance of salmon	X Improved fishery health benefits sport and subsistence fishermen
Picnic area	X Planting plan of native plants. Focus on edibles supports wildlife	X Continuing the legacy of this being a site where people gather. The history of the dam.	X Recycled concrete benches from the dam connects the history of the dam to the site	X Picnicking, community gathering
Fishing platform	X Connects people to natural systems	X Historic fishing area, the Nez Perce have a history of building and using fishing platforms	X See historic land use	X Provides ADA access for fishermen
Boat launch	X Connects people to natural systems	X Ties to the Nez Perce and Palouse tradition of using canoes and the presence of the ferry launch in the Euro-American settlement	X See historic land use	X Provides boating access
Bird watching blind	X Increases ecological awareness		X Provides connection to the ecology of the site	X Bird watching
Orchards	X Minimal, but provides food source for wildlife	X Connects to the orchards of the Euro-American settlement. In historical alignment- provides connection to settlement layout	X See historic land use, provides connection to the cycle of seasons	X Fruit picking
Waterline marker installation	X Increases ecological awareness	X Highlights the history of the dam	X Allows visits to better understand the scale of the flood by visualizing its depth	X Point of interest
Interpretive panels	X Highlights natural systems		X Vehicle for information and storytelling about the history and ecology of the site	X Educational
Walking trail	X Increases ecological awareness		X Connects visitors to shrubsteppe	X Walking, running, and birdwatching, connects existing park with new area
Road onto the new park area		X Road is in alignment with Euro-American settlement roads	X Connects visitors to a fragment of the settlement circulation	X Park access

SEASONAL ACTIVITIES

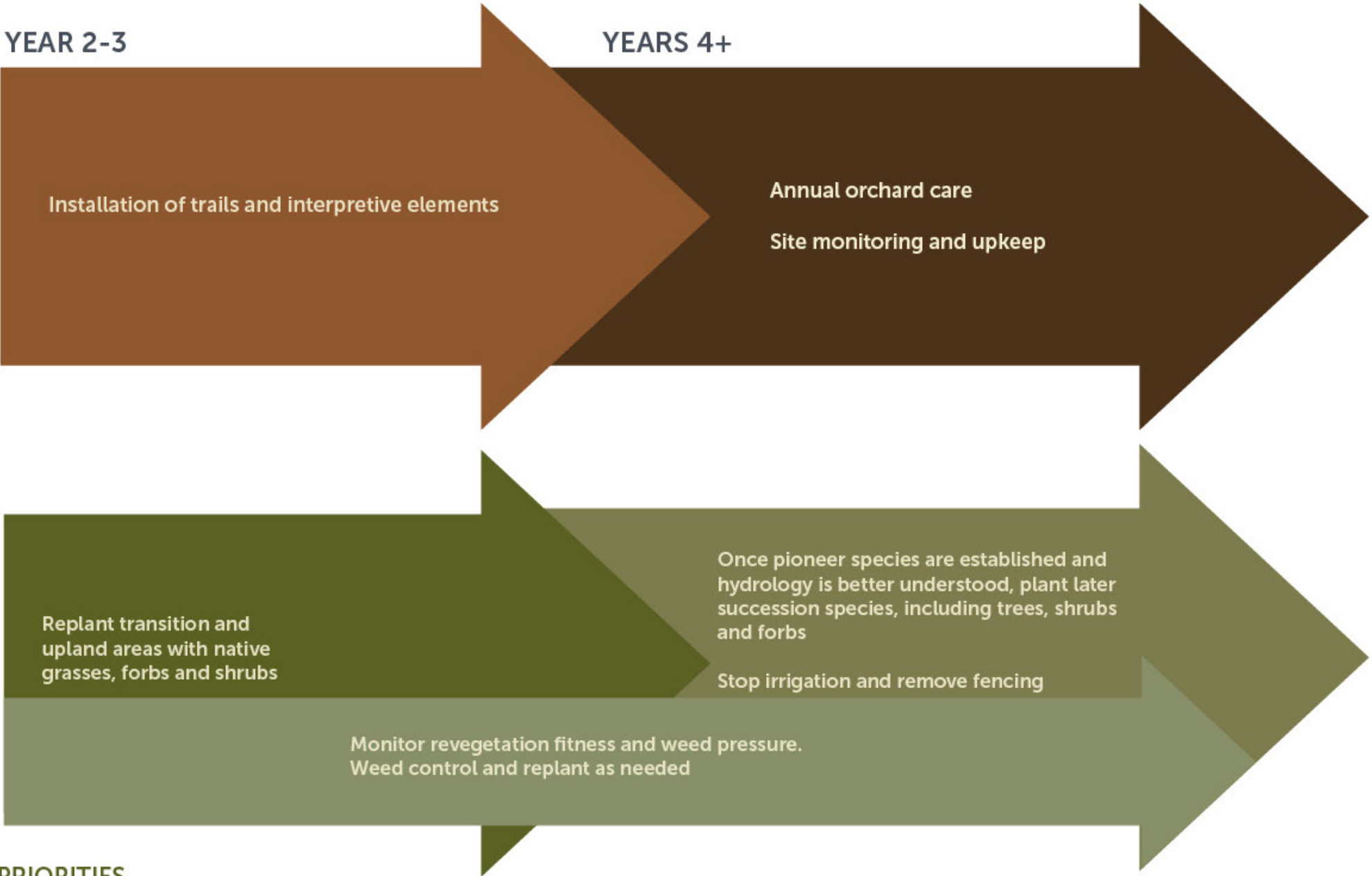


Human connection to land has been tied to the seasonal cycles for millenia. This chart visualizes the relationship between seasonal cycles of activities that have been included in the plan. The chart includes a few examples of migratory and resident birds that may be seen on the site.

PHASING



PHASING



PRIORITIES
Biodiversity, cultural connection, habitat creation and improvement

ECOLOGICAL RESTORATION

REVEGETATION PHASE ONE

In phase one soil stabilization and weed suppression are priority. Biodiversity will be increased over time with successive plantings.

RIPARIAN

Willows and sedges will establish quickly and provide stabilization and improve riparian habitat.

Recommendation: seed willow rather than planting cuttings for better genetic diversity.



Coyote Willow *Salix exigua*



Awned Sedge *Carex atherodes*



Slender-beak Sedge *Carex athrostachya*

SHRUBSTEPPE

Consider covercropping the upland and transition areas for the first 1-2 years. Cover cropping provides weed suppression, and stabilization. After dam removal the soil will be primarily composed of silt and sand from the sediment release. Covercropping will improve growing conditions for future plantings.



Triticale



Tufted Hairgrass *Deschampsia cespitosa*



Canadian Milkvetch *Astragalus canadensiscespitosa*

WETLAND

The raised waterline due to the dam is flooding the wetland and has formed a bay. Once flooding recedes after dam removal, the formerly flooded land will need to be replanted. There is a natural seep in that area and it's a collection point for water, but it may be a seasonal wetland due to the dry climate.



Dagger-leaf Rush *Juncus ensifolius*

Because of the magnitude of disturbance from dam removal, plantings will need to start with pioneer species. Phase one will last one to three years. In the subsequent phases, as vegetation is re-established, and the hydrology and specific growing conditions are better understood, biodiversity will in increased through additional plantings. Later succession species would be included

in that process. The revegetation method was determined by analyzing the revegetation methods used in the Elwha and Klamath restoration processes. Additionally, I consulted with regional restoration experts, and researched the regional ecology and the regional restoration standards.



Photos:
Coyote Willow. 2009. <http://science.halleyhosting.com/nature/gorge/tree/broadlf/salix/exigua.html>
Carex atherodes. Peter M. Dzuik. 2006. Minnesota Wildflowers
Carex athrostachya. Steve Matson. 2004. Calflora
Triticale. <https://greatbasinseeds.com/product/trical-131-triticale/>
Dagger-leaf Rush. <https://satinflower.ca/products/juncus-ensifolius>
Deschampsia cespitosa. <https://www.midwestgroundcovers.com/plant/deschampsia-cespitosa-ngn/>
Canadian Milkvetch. <https://www.prairiemoon.com/astragalus-canadensis-canada-milk-vetch>

REVEGETATION PLANT LIST

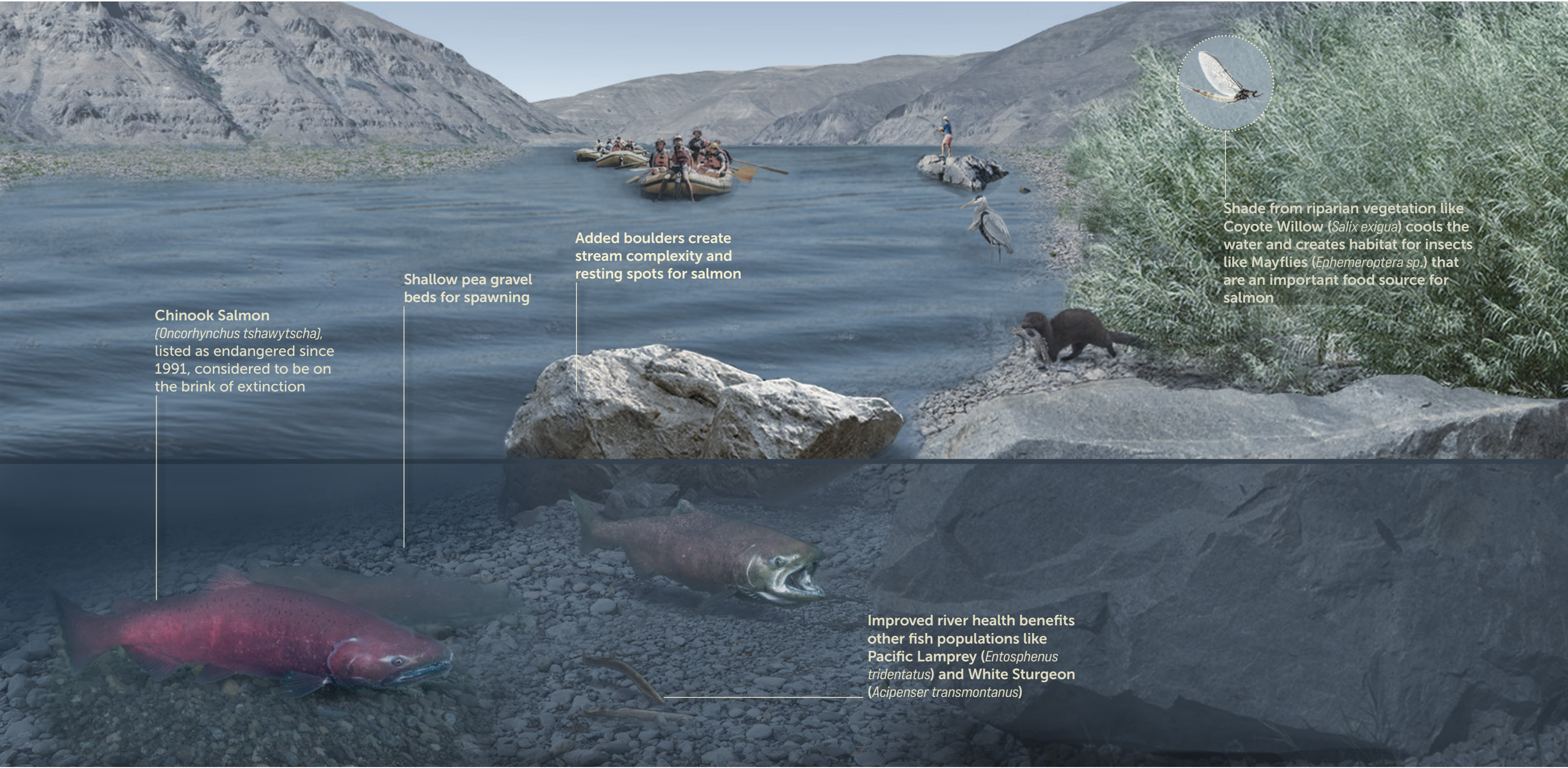
PLANT NAME	Wet	Moist	Dry	Stabilizer	Early seral	Fast establisher	Pollinator	Notes
Grasses:								
Tufted Hairgrass <i>Deschampsia cespitosa</i>	X	X		X	X	X		Remediator
Slender hairgrass <i>Deschampsia elongata</i>	X	X			X	X		
Kentucky bluegrass <i>Poa pratensis</i>		X	X	X	X	X		
Canadian Wild Rye <i>Elymus canadensis</i>		X	X	X	X	X		Remediator
Blue Wild-Rye <i>Elymus glaucus</i>		X	X	X	X	X		Disturbed sites
Small Fescue <i>Festuca idahoensis</i>			X	X	X	X		
Cusicks’s Bluegrass <i>Vulpia microstachys</i>			X	X	X	X		Disturbed sites
Idaho Fescue <i>Festuca idahoensis</i>			X	X	X	X		
Sedges								
Hardstem Bull Rush <i>Schoenoplectus acutus</i>	X			X	X	X		
Awned Sedge <i>Carex Atherodes</i>	X			X	X	X		
Slender-Beak Sedge <i>Carex athrostachya</i>	X	X		X	X	X		
Beaked Sedge <i>Carex utriculata</i>	X			X	X	X		Drying shores
Starry Sedge <i>Carex pachystachya</i>	X	X		X	X	X		
Douglas’s Sedge <i>Carex douglasii</i>	X	X	X	X	X	X		
Liddon’s Sedge <i>Carex petasata</i>		X	X	X	X	X		
Thread-Leaved Sedge <i>Carex filifolia</i>			X	X	X	X		
Rushes:								
Baltic Rush <i>Juncus balticus</i>	X			X	X	X		
Nevada Rush <i>Juncus nevadensis</i>	X			X	X	X		
Toad Rush <i>Juncus bufonius</i>	X			X	X	X		
Dudley’s Rush <i>Juncus dedleyi</i>	X			X	X	X		
Dagger Rush <i>Juncus Ensifolius</i>	X			X				
Long-styled Rush <i>Juncus longistylis</i>	X	X		X				
Torrey’s Rush <i>Juncus torreyi</i>	X	X		X				
Forbs								
Stinging Nettles <i>Urtica gracilis</i>		X				X		
Bigleaf Lupine <i>Lupinus polyphyllus</i>		X		X		X	X	Disturbed sites, remediator

Note: While edible berries have been noted, other culturally significant plants are not labeled due to potentially sensitive cultural knowledge and plant communities.

PLANT NAME	Wet	Moist	Dry	Stabilizer	Early seral	Fast establisher	Pollinator	Notes
Forbs cont.								
Dogbane <i>Apocynum cannabinum</i>		X		X		X	X	Disturbed sites
Showy Milkweed <i>Asclepias speciosa</i>		X	X			X	X	
Canadian Milkvetch <i>Astragalus canadensis</i>	X	X	X	X	X	X	X	Nitrogen fixer
Wild Licorice Root <i>Glycyrrhiza lepidota</i>		X		X	X		X	Nitrogen fixer
Common Sunflower <i>Helianthus annuus</i>		X	X	X	X	X	X	Remediator
Fernleaf Biscuitroot <i>Lomatium dissectum</i>		X	X	X			X	Wildlife forage
Velvet Lupine <i>Lupinus leucophyllus</i>			X	X			X	Nitrogen fixer
Yarrow <i>Achillea millefolium</i>		X	X	X	X	X	X	
Blanket Flower <i>Gaillardia aristata</i>			X		X	X	X	
Piper’s Milkvetch <i>Astragalus riparius</i>			X		X		X	Threatened species
Bitterroot <i>Lewisia rediviva</i>			X		X		X	
Blue Mountain Prairie Clover <i>Dalea ornata</i>			X	X	X	X	X	Forage, nitrogen fixer
Deer Horn Clarkia <i>Clarkia pulchella</i>			X			X	X	
Royal Penstemon <i>Penstemon speciosus</i>			X	X	X	X	X	
Parsnip-Flowered Buckwheat <i>Eriogonum heracleoides</i>			X		X		X	
Oregon Sunshine <i>Eriophyllum lanatum</i>			X	X	X	X	X	
Oregon Checker Mallow <i>Sidalcea oregana</i>		X	X	X			X	
Shrubs				X				
Nootka Rose <i>Rosa nutkana</i>	X	X		X	X	X	X	
Red-Osier Dogwwod <i>Cornus occidentalis</i>	X	X		X	X	X		Provides habitat
Coyote Willow <i>Salix exigua</i>	X	X		X	X	X	X	Provides habitat and forage
Geyer’s Willow <i>Salix geyeriana</i>	X	X		X	X	X	X	Provides habitat and forage
Scouler’s Willow <i>Salix scouleriana</i>	X	X		X	X	X	X	Provides habitat and forage
Black Hawthorn <i>Crataegus douglasii</i>	X	X		X	X		X	Wildlife food and habitat
Blackcap Raspberry <i>Rubus leucodermis</i>		X	X	X	X	X	X	Edible berries
Northwest Raspberry <i>Rubus nigerrimus</i>		X		X	X		X	Rare, endemic
Blue Elderberry <i>Sambucus cerulea</i>	X	X	X	X	X	X	X	Wildlife food and habitat
Serviceberry <i>Amelanchier alnifolia</i>		X	X	X	X	X	X	Edilble berries, Wildlife food and habitat
Lewis’ Mock Orange <i>Philadelphus lewisii</i>		X	X	X	X	X	X	Wildlife habitat
Chokecherry <i>Prunus virginiana</i>		X	X	X	X	X	X	Edilble berries, Wildlife food and habitat

PLANT NAME	Wet	Moist	Dry	Stabilizer	Early seral	Fast establisher	Pollinator	Notes
Shrubs cont.								
Wax Currant <i>Ribes cereum</i>		X	X	X	X	X	X	Edilble berries, Wildlife food and habitat
Golden Currant <i>Ribes aureum</i>		X	X	X	X	X	X	Edilble berries, Wildlife food and habitat
Rabbitbrush <i>Ericameria nauseosa</i>			X	X	X	X	X	Winter forage
Stiff Sagebrush <i>Artemisia rigida</i>			X					Habitat, winter forage
Trees								
Peachleaf Willow <i>Salix amygdaloides</i>	X	X		X	X	X	X	Wildlife food and habitat
White Alder <i>Alnus rhombifolia</i>	X	X		X	X	X		Wildlife food and habitat
River Birch <i>Betula occidentalis</i>	X	X		X	X	X		Wildlife food and habitat
Hackberry <i>Celtis reticulata</i>		X	X	X	X			Riparian, tolerates harsh conditions

SALMON HABITAT RESTORATION



Chinook Salmon
(Oncorhynchus tshawytscha),
listed as endangered since
1991, considered to be on
the brink of extinction

Shallow pea gravel
beds for spawning

Added boulders create
stream complexity and
resting spots for salmon

Shade from riparian vegetation like
Coyote Willow (*Salix exigua*) cools the
water and creates habitat for insects
like Mayflies (*Ephemeroptera* sp.) that
are an important food source for
salmon

Improved river health benefits
other fish populations like
Pacific Lamprey (*Entosphenus*
tridentatus) and **White Sturgeon**
(*Acipenser transmontanus*)

INTERPRETIVE ELEMENTS

BIRD WATCHING BLIND
Enhancing the wetland experience

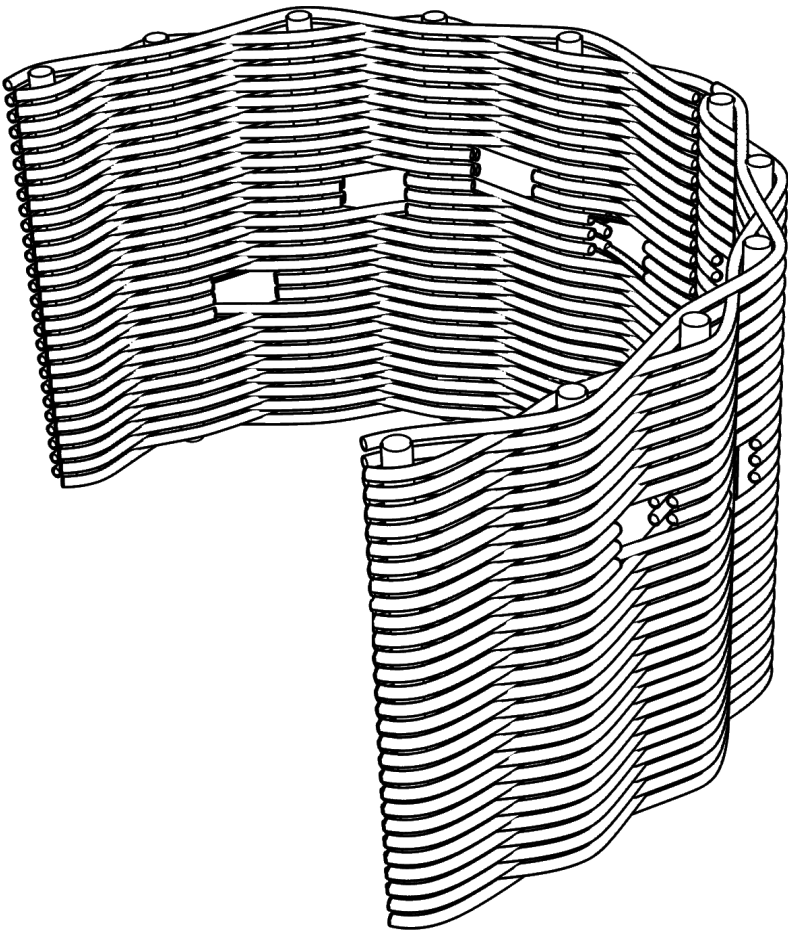
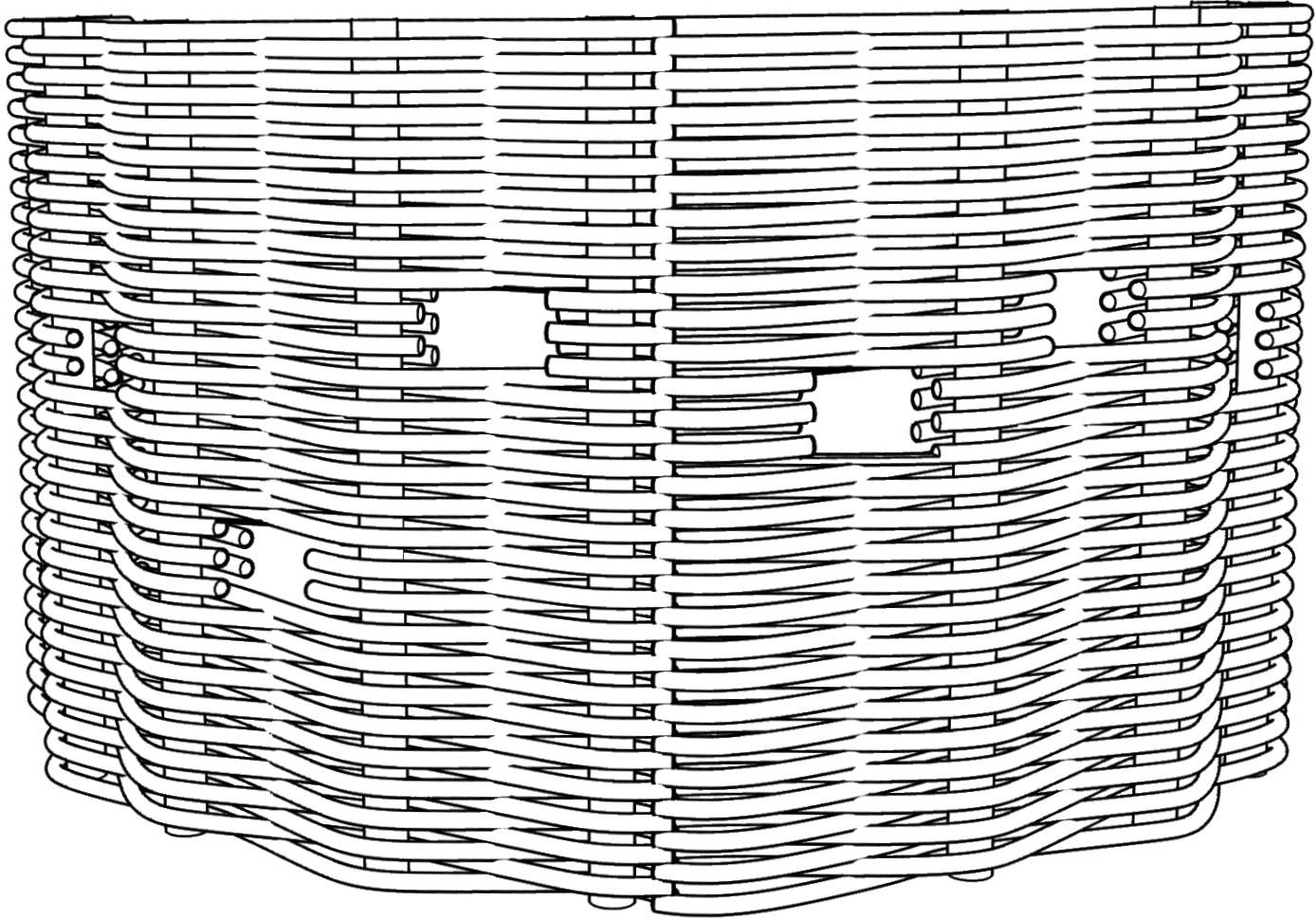


Basket. Columbia Plateau. https://www.nps.gov/museum/exhibits/nepe/exb/special%20feature_textiles/nepe34222_basket.html



A Cedar Waxwing Nestling. Cam Mannino. <https://oaklandnaturalareas.com/2018/03/26/nestwatch-being-citizen-scientists-in-our-backyards-and-parks/>

Bent rebar bird blind inspired by Nez Perce basketry and the nests of the songbirds of the site, like Cedar Waxwing.



CURRENT CONDITIONS

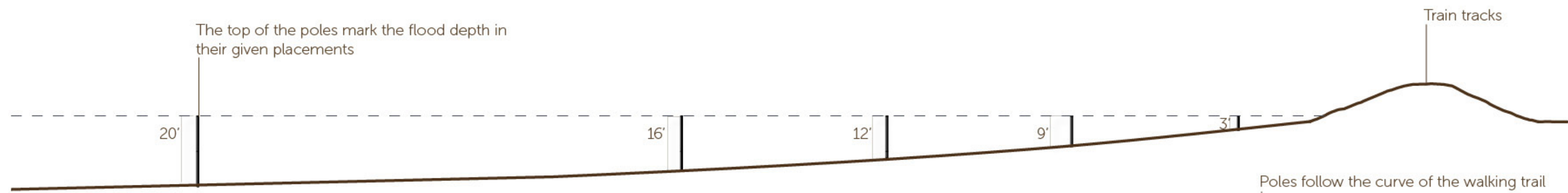


BIRD WATCHING BLIND
Enhancing the wetland experience



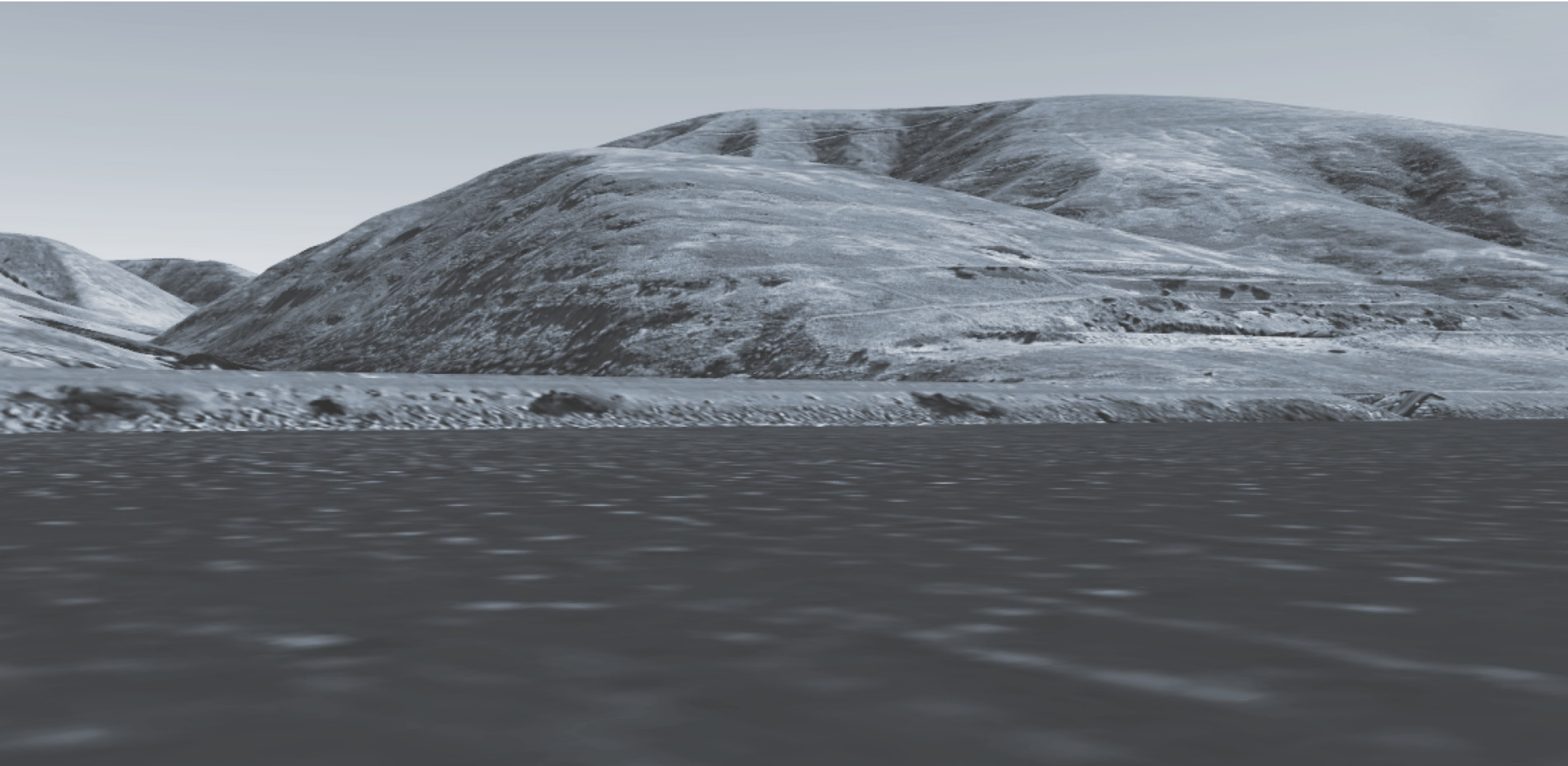
FLOOD MARKERS

Remembering the impacts of the dam



Steel poles mark the water depth of the flooding from the Lower Granite Dam. They provide a visual reminder of the site's inundation from the dam and provide a spatial marker for understanding the scale of the flood. The poles stop at 20', but at its lowest point, the site was flooded with 80' of water.





FLOOD MARKERS
Remembering the impacts of the dam



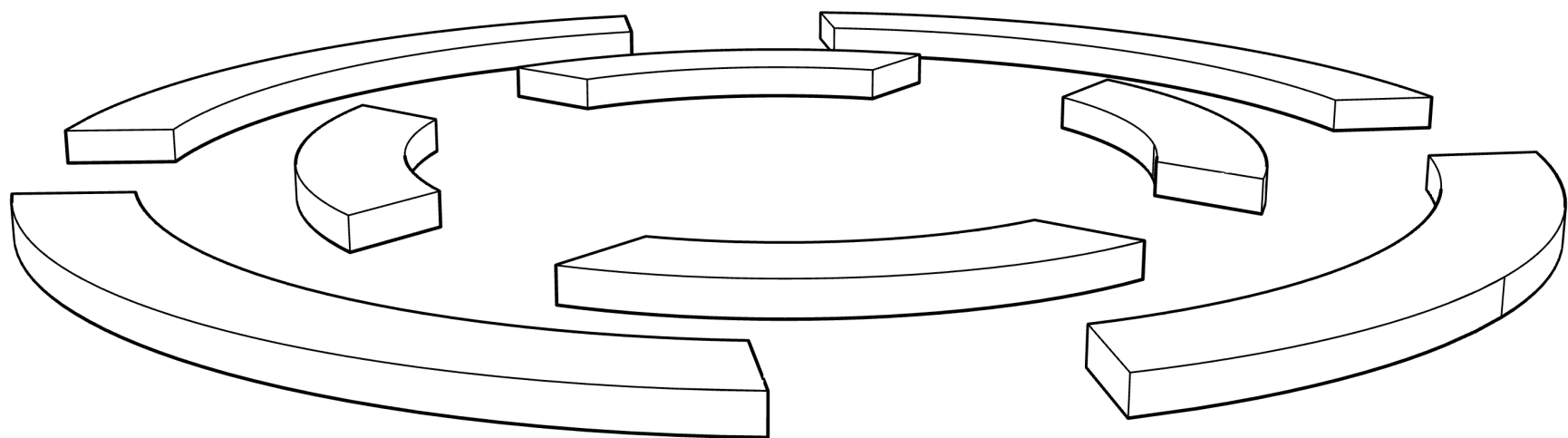
COMMUNITY GATHERING AREA BENCHES
Transforming the legacy of the Lower Granite Dam



The Lower Granite Dam. AP Images. 2002. <https://www.sierraclub.org/sierra/snake-river-dams-biden-administration-supports-removal>



Copco 2 dam removal on the Klamath River, California. Swiftwater Films. 2024. <https://www.americanrivers.org/2024/05/four-things-to-know-about-the-impacts-of-dam-removal-on-the-klamath-river/>



Community gathering area benches made from concrete recycled from the Lower Granite Dam
The circular design alludes to the circular history of the site.



CURRENT CONDITIONS



COMMUNITY GATHERING AREA BENCHES

Transforming the legacy of the Lower Granite Dam



COMMUNITY GATHERING AREA PLANTING PALETTE

SHRUBS



Serviceberry
(Amelanchier alnifolia)



Wax Currant
(Ribes cereum)



Blue Elderberry
(Sambucus cerulea)



Golden Currant
(Ribes Aureum)



Chokecherry
(Prunus virginiana)



Smooth Sumac
(Rhus glabra)

FORBS



Arrowleaf Balsamroot
(Balsamorhiza sagittata)



Fernleaf Biscuitroot
(Lomatium dissectum)



Blanket Flower
(Gaillardia aristata)



Munro's Globemallow
(Sphaeralcea munroana)



Blue Mountain prairie-clover
(Dalea ornata)



Showy Penstemon
(Penstemon Speciosus)



Showy Phlox
(Phlox speciosa)



Tolmie's Onion
(Allium tolmiei var. tolmiei)



Mountain Yampah
(Perideridia montana)



Yarrow
(Achillea millefolium)



Yellow Bells
(Fritillaria pudica)



Yellow Paintbrush
(Castilleja lutescens)

GRASSES



Bluebunch Wheatgrass
(Pseudoroegneria spicata)



Thread-leaved Sedge
(Carex filifolia)



Cusick's bluegrass
(Poa cusickii)



Idaho Fescue
(Festuca idahoensis)

Photos:
Serviceberry. 2004. <https://www.swcoloradowildflowers.com/White%20Enlarged%20Photo%20Pages/amelanchier.htm>
Elderberry. Slichter. 2011. <http://science.halleyhosting.com/nature/plants/5petal/honey/sambucus/mexicana6c.jpg>
Chokecherry. 2009. https://commons.wikimedia.org/wiki/File:Prunus_virginiana_flowers.jpg
Ribes cereum var cereum. Stan Shebs. 2006. https://commons.wikimedia.org/wiki/File:Ribes_cereum_var_cereum_2.jpg
Ribes aureum. Julie Kane. 2011 <https://burkeherbarium.org/imagecollection/photo.php?Photo=wtu034490&Taxon=Ribes%20aureum&SourcePage=taxon>
Arrowleaf Balsamroot <https://www.etsy.com/listing/1496746152/50-arrowleaf-balsamroot-seeds-native?gpla=1&gao=1&>
Blanketflower <https://www.joyfulbutterfly.com/product/>

indian-blanket-plant-gaillardia-pulchella/
Dalea ornata. Adam Schneider. 2024 <https://burkeherbarium.org/imagecollection/photo.php?Photo=wtu130680&Taxon=Dalea%20ornata&SourcePage=taxon>
Fernleaf Biscuitroot <https://northwestmeadowscapes.com/products/fernleaf-biscuit-root-seeds-lomatium-dissectum>
Munro's Globemallow. <https://www.cachevalleynativeplants.com/product-page/munro-s-globemallow>
Showy Penstemon. Bob Gibbons. Science Photo Library. <https://www.sciencephoto.com/media/59607/view/showy-penstemon-penstemon-speciosus->
Showy Phlox https://southwestdesertflora.com/WebsiteFolders/ALL_Species/Polemoniaceae/Phlox%20speciosa,%20Showy%20Phlox.html
Tolmie's Onion. Mark Turner. <https://www.pnwflowers.com/flower/allium-tolmiei>

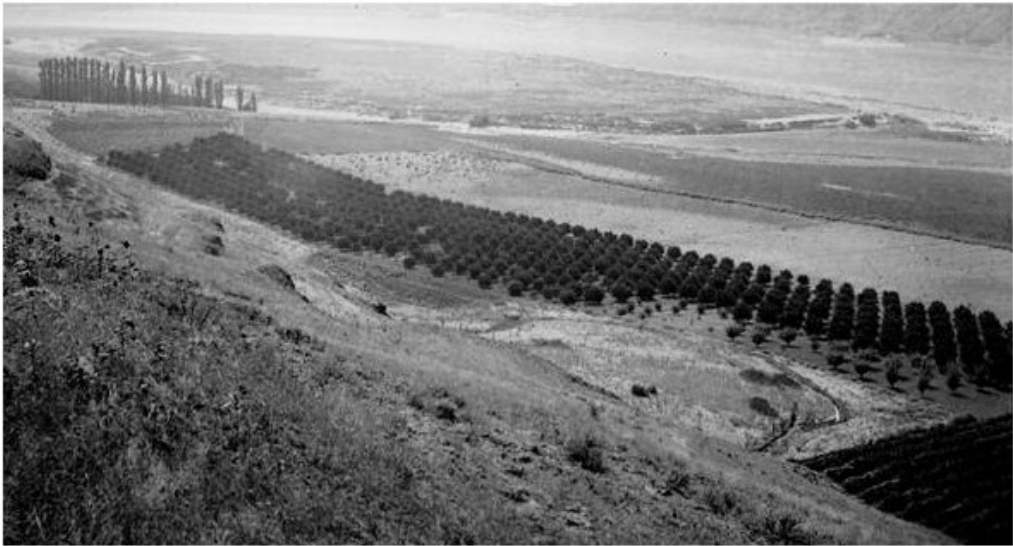
Perideridia gairdneri. Ann Kelliott. <https://www.nomadseed.com/2017/07/yampah-perideridia-americana-more/>
Yarrow <https://www.gardenersworld.com/plants/achillea-millefolium/>
Yellow Bell <https://fourthcornernurseries.com/plant/fritillaria-pudica/>
Yellow Paintbrush <https://alclanativeplants.com/product/castilleja-lutescens/>
Bluebunch Wheatgrass. Bruce N. Newhouse. <https://oregonflora.org/taxa/garden.php?taxon=7699>
Carex filifolia var. erostrata. 2007. Steve Matson. https://calphotos.berkeley.edu/cgi/img_query?enlarge=0000+0000+0707+0998
Poa cusickii 14246356. Jim Morefield. 2016. <https://www.inaturalist.org/photos/14246356>
Idaho Fescue. 2009. Stickpen. [https://calscape.org/plant/Festuca-idahoensis-\(Idaho-Fescue\)/gallery#](https://calscape.org/plant/Festuca-idahoensis-(Idaho-Fescue)/gallery#)

ORCHARD

The past bearing fruit into the future

The inclusion of an orchard in the plan makes visible the history of the settlement. I was unable to find a record of the specific fruit varieties that were grown on site. Fruit selection was based on the most commonly grown fruit varieties of the era. That information came from *Susan Dolan’s book Fruitful Legacy: A Historic Context of Orchards in the United States*. Those varieties were cross referenced with varieties that are currently viable in Southeast Washington. The layout and tree spacing are in alignment with one of the historical orchard plots. The trees would be pruned in the central leader style, which was commonly used in the era that the site was orcharded.

The orchard is not intended as a memorial to the settlement history. It is an acknowledgment of the site’s history and would provide connection to former seasonal cycles on the site. They would bear fruit into the future that could be accessed with greater equity than in the past.



Wawawai Orchards Washington Clifford M. Ott Collection, University of Idaho Library Special Collections and Archives



Bing Cherry (*Prunus avium* 'Bing')



Winesap Apple (*Malus domestica* 'Winesap') & Baldwin Apple (*Malus domestica* 'Baldwin')



Bartlett Pears (*Pyrus communis* 'Bartlett')



Elberta Peach (*Prunus persica* 'Elberta')

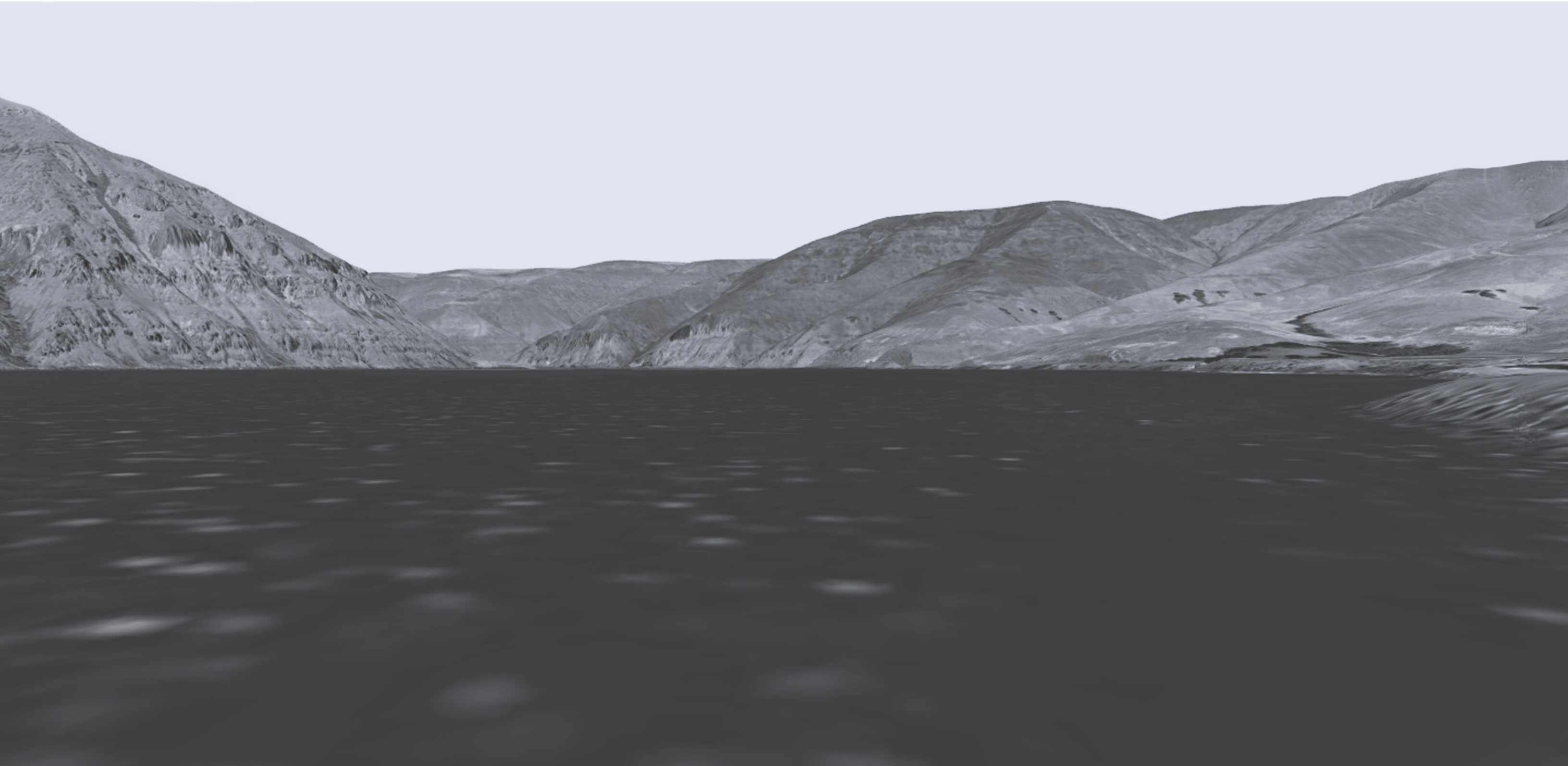


1897
Marion B. Meyers Harvest Crew, Wawawai, WA 1897 Washington State University Digital Collection



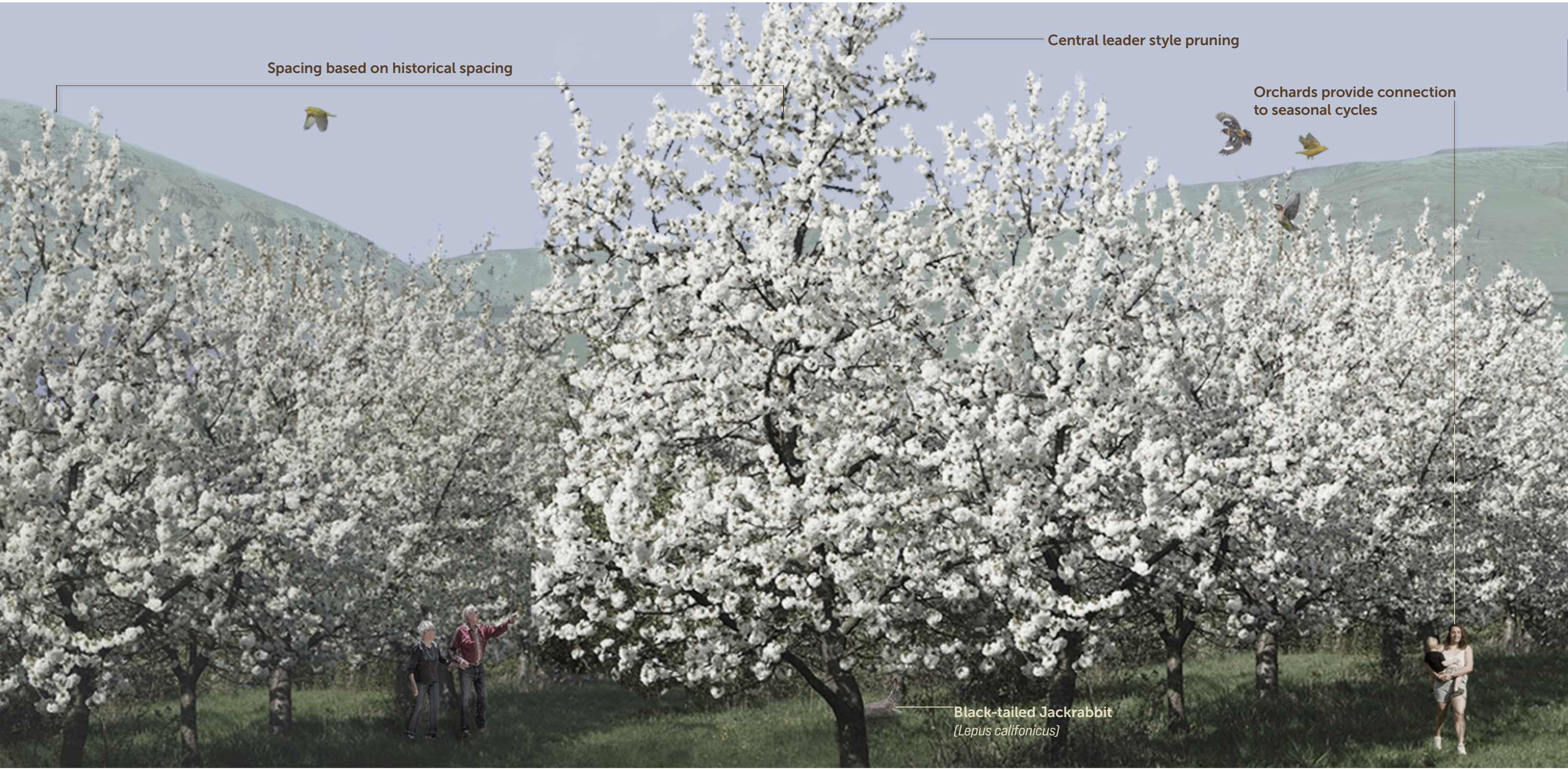
1953





ORCHARD

The past bearing fruit into the future



III. CONCLUSION

CONCLUSION

Through a combination of ecological restoration, the re-establishment of historical fragments, and interpretive panels and installations, this site plan conveys a narrative of place that encompasses the site's natural systems, and the layers of human use and connection. Simultaneously, this plan preserves and enhances the existing recreation opportunities on the site and looks towards the future of new stories of human connection and ecological stewardship.



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